

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY
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Palisades, New York

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SEA FLOOR GEOTHERMAL MEASUREMENTS
FROM VEMA CRUISE 26

by

Marcus G. Langseth, Jr.
Isabel Malone
Lois K. Ongley
R. John Fiske, III
Charles A. Bookman

January 1974

Technical Report No. 7-CU-7-74
ONR Contract N00014-67-A-0108-0004

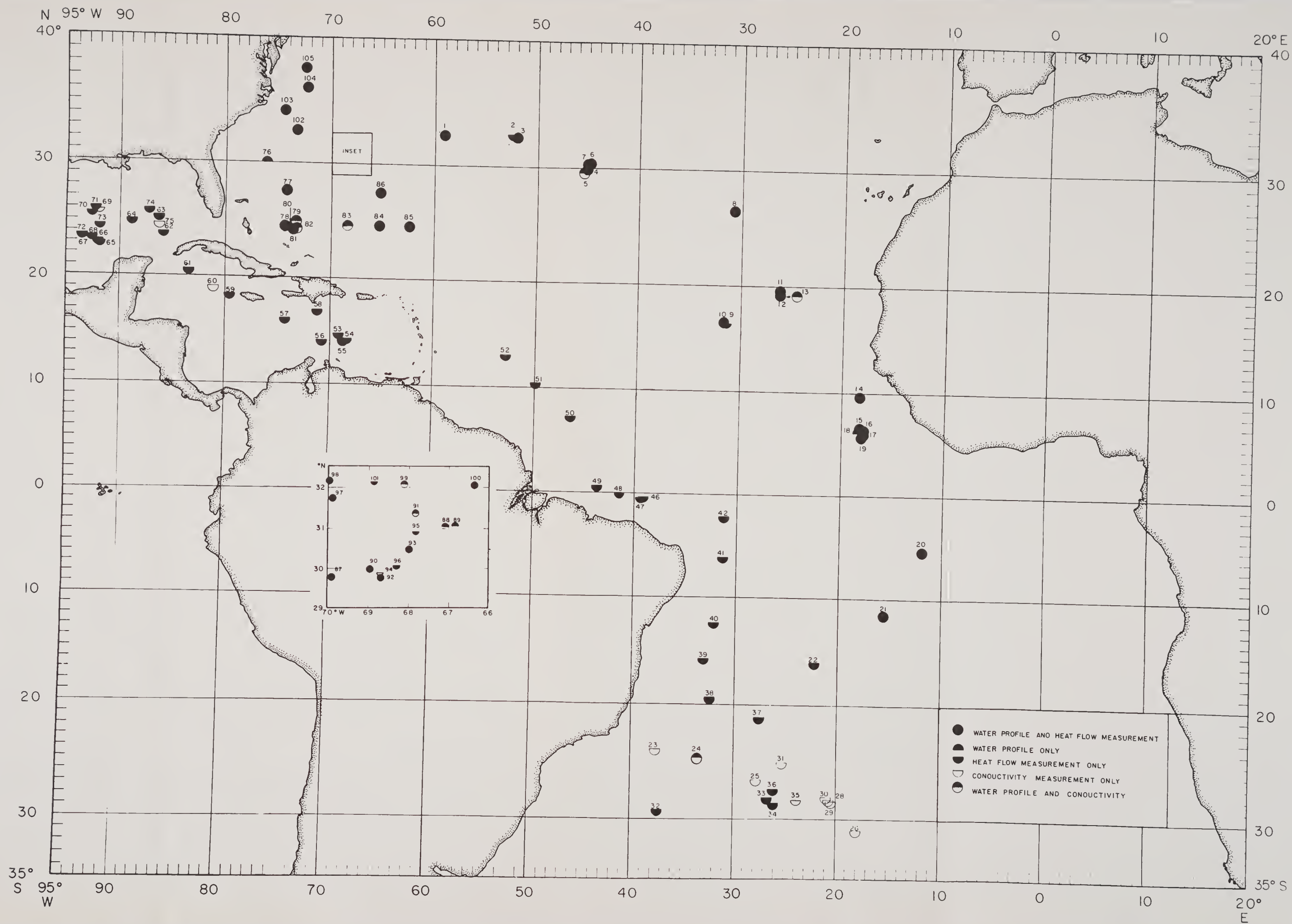
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INTRODUCTION

This report gives results of temperature measurements in the deep ocean water and sea floor sediment, and results of conductivity measurements on sediment cores taken with the temperature measurements. These measurements were made on R/V VEMA cruise 26 beginning at New York on July 23, 1968 and ending at New York on May 19, 1969.

The principal objective of the measurements reported here is to determine the geothermal heat flux through the sea floor (see for example, Bullard, 1954). These measurements are also pertinent to studies of deep and near bottom water temperature in the ocean, as well as steady-state and transient thermal processes at the sediment-water interface. We have attempted, in this report, to present the data in a form that is useful to scientists interested in the thermal regime of the deep ocean.

INSTRUMENT TECHNIQUE

For a complete description of the instruments and techniques used to measure temperature and conductivity in the deep sea, see Gerard et al. (1962) and Langseth (1965). A summary of the measurement techniques is given below so that the reader can better assess the data.

The Ewing Thermograd: All of the temperature data reported were measured with the Ewing thermograd. This instrument uses an array of

3 to 5 thermistor probes mounted along a coring tube to measure sediment temperatures, a thermistor probe to measure water temperature, and a pressure gauge to indicate the depth of the instrument in the water. The temperature and pressure are recorded on 70 mm film as analog traces. The recorder is placed inside of a pressure case that is secured inside the weight at the top of the piston corer.

Water Temperature Measurements: Water temperatures are measured during lowering and hoisting of the thermograd with a bead-type thermistor that is mounted in a watertight stainless steel probe. The diameter of the probe is about 1.25 mm and its length is 2.5 cm. The probe has a time constant of about 0.5 sec in flowing water. This probe is mounted on the pressure vessel. During lowering, the water probe points downward so that relatively undisturbed water is continually flowing past it. (Lowering rates vary from 100 to 200 meters/minute). Upon hoisting, the probe is in the wake of the core weight. (Hoisting rates are usually 50 to 100 meters/minute.).

The water temperature trace on the 70 mm film record has a displacement of about 2.5 cm per degree centigrade, and the film record is read with a precision of about 0.1 mm. The water probe is calibrated prior to use at sea in a constant-temperature bath at 5 or 6 points with an absolute accuracy of $\pm 0.05^{\circ}\text{C}$. The relative accuracy of calibration between temperature points is about $\pm 0.005^{\circ}\text{C}$.

Instrument Depth Measurements: The depth of the instrument below the sea surface is measured by a pressure gauge. This gauge consists of a cavity exposed to the ambient sea pressure and surrounded by strain-sensitive wires. The linearity of the gauge is about 0.35%. The pressure detected by the gauge is recorded as a separate trace on the 70 mm film record, which has a sensitivity of 1500 m per centimeter displacement. Thus, the resolution of the record is about 15m. Depths during lowering are found by a linear interpolation between the surface and bottom readings which results in an accuracy of depth measurement of about ± 25 m.

Sediment Temperatures: Temperatures at up to five points below the sediment-water interface are measured by means of thermistor probes mounted along the core tube. The thermistor is in the end of a stainless steel probe 0.317 cm in diameter. This probe is pressure proof and mounted on a steel fin so that it is held about 5 cm from the core tube. The probe itself is secured in a plastic (PVC) collar that provides thermal insulation from the fin. The tip of the probe projects about one inch beyond this collar.

To measure sediment temperatures the corer is lowered to within about a hundred meters of the bottom and held for a few minutes to allow the probes to equilibrate in the nearly isothermal near bottom water. The corer is then lowered until bottom contact is made. Upon contact, the corer free-falls about 10 ft. , penetrating the sediment to depths up to

25 meters. The corer is left undisturbed in the sediment for about 5 minutes, while temperatures are recorded as the probes equilibrate with the sediment. The corer is then extracted from the sediment and hoisted back to the ship.

The sediment probes are calibrated in the same way as the water probe described earlier. Temperature gradients in the sediment, which are of prime interest, are determined by taking the difference between measurements in the water near the bottom and in the sediment after equilibration. Thus, in determining gradients we depend only on the relative calibration accuracy which is $\pm 0.005^{\circ}\text{C}$.

Conductivity Measurements: Measurements of thermal conductivity are made on the sediment core samples aboard the research ship about one hour after the core has been extruded from the core tube. A thin probe is imbedded in the sediment and the temperature measured while the probe is heated at a constant rate. We use a probe about 6 cm in length and 0.8 mm in diameter that contains a 50 Ω heater wire and a thermistor. The probe is inserted into the 2.5 inch sediment sample at an angle of about 45° to the long axis of the core. Six volts are applied to the heater and the temperature rise is recorded on a Varian strip-chart recorder for about two minutes.

Reduction of Thermograd and Conductivity Data: The trace displacements on the 70 mm thermograd film record are measured on a

projected image of the film on the surface of a digitizing table. The magnification is about 4 times. The minimum digitizing increment of this table is 0.01". The digitized trace displacements corresponding to water and mud temperatures and instrument depth are entered on computer punch cards, which are converted into temperature versus depth information with an IBM 1130 computer.

The conductivity measurements are reduced by manually reading displacements from the strip chart records. Displacement versus resistance calibration made on board ship, and temperature versus resistance calibration of the thermistor are used to convert displacements into temperature. Readings are taken approximately every 10 seconds after the probe heater is turned on. These temperatures are then plotted versus the logarithm of time. The slope of these semi-log plots can be interpreted in terms of conductivity by means of the following relation.

$$K = \frac{Q \cdot \ln(t_2/t_1)}{4\pi (T_2 - T_1)}$$

where

Q = the heater power per unit length in cal/cm sec

t_2 and t_1 are times after heater turn-on usually 10 and 100 seconds

T_2 and T_1 are temperatures at t_1 and t_2 .

PRESENTATION OF THE DATA

Summary Table: The thermal data relevant to the geothermal heat flux are given for each station in Table 1.

The depths are given in corrected meters, determined by taking the depth indicated by the Precision Depth Recorder at the time of the core contact and correcting for the velocity of sound in water using Matthews (1939) tables.

The gradient refers to the vertical gradient in the sediment determined from temperature measurements in the sediments. Units are $^{\circ}\text{C}/10\text{ m}$.

The listed conductivity value is the harmonic mean
$$N / \sum_{i=1}^N (1/X_i)$$

where N is the total number of measurements and X_i 's are conductivity values, of all the measurements within the interval of gradient measurement. Units are $\text{mcal}/^{\circ}\text{C sec cm}$.

Heat flow is the product of the gradient and the conductivity. The units are $\mu\text{cal}/\text{cm}^2\text{ sec}$.

The evaluation is a subjective index applied by the authors to indicate our appraisal of the reliability of the gradient and conductivity measurements. The numbers are interpreted in Table 2.

Table 1
VEMA 26 GEOTHERMAL DATA

Latitude	Longitude	Depth		Cond.	Heat Flow	Eval.	T'Grad Core Stn.		
		M	Grad.				#	#	#
32°37'N	59°10'W	4907	0.34	1.99	0.68	8	1	4	8
32°42'	52°35'	5209	0.42	1.89	0.79	8	2	6	10
32°36'	52°04'	5161	0.37**	1.66	0.61	6	3	7	11
29°54'	45°07'	3244	0.13**	2.36	0.30	5	4	13	18
29°48'	45°11'	2606	-	2.38	-	-	5	14	19
30°21'N	44°54'W	3889	0.57	2.51	1.43	7	6	15	20
30°13'	45°06'	3853	0.56	2.02	1.13	8	7	16	21
26°21'	40°56'	4695	0.62	2.34	1.45	4	8	22	26
16°38'	31°06'	4894	0.46	2.13	0.98	8	9	37	41
16°33'	31°34'	5053	0.29	1.92	0.56	3	10	39	43
19°40'N	26°07'W	4550	0.41	2.30	0.94	10	11	40	44
19°17'	26°07'	4387	0.62	2.27	1.41	7	12	41	45
19°17'	26°07'	4387	-	2.22	-	-	13	43	47
9°34'	18°11'	2899	0.45	2.02	0.91	9	14	46	50
6°36'	18°08'	4901	0.65	1.77	1.15	8	15	47	51
5°50'N	17°51'W	4629	0.61-0.36*	2.00	1.17-0.80	7	16	49	53
6°16'	17°55'	4874	0.60	1.94	1.16	7	17	50	54
6°02'	18°15'	4600	-	-	-	-	18	51	55
5°50'	18°05'	4910	0.63	1.87	1.18	8	19	52	56
5°28'S	11°56'	2906	1.00	2.06	2.06	7	20	54	58
11°36'S	15°34'W	3380	0.80	2.28	1.82	7	21	55	59
16°16'	22°15'	4819	0.14	1.69	0.24	8	22	56	60
23°58'	37°57'	3620	-	2.09	-	-	23	63	67
24°53'	33°33'	5099	-	1.64	-	-	24	64	68
26°42'	27°52'	4371	-	2.26	-	-	25	65	69
30°52'S	17°51'W	3936	-	2.36	-	-	26	70	74
28°36'	20°41'	4505	-	1.88	-	-	28	74	77
28°29'	20°26'	4666	-	1.72	-	-	29	76	79
28°19'	20°54'	4311	-	2.06	-	-	30	77	80
25°10'	25°16'	5039	-	1.81	-	-	31	79	82

*Gradient of 0.61°C/10m measured between 3.61m and 7.43m and 0.36°C/10m between 7.43m and 12.38m.

** Gradient not uniform with depth.

Latitude	Longitude	Depth		Cond.	Heat Flow	T'Grad Eval.	Core #	Stn. #
		M	Grad.					
29°18'S	37°16'W	3880	0.48	2.41	1.16	10	32	86
28°20'	26°39'	5149	0.24	1.82	0.44	10	33	89
28°51'	26°09'	5269	0.59	2.21	1.30	8	34	91
28°32'	23°42'	4548	0.38	2.14	0.81	5	35	92
23°38'	26°09'	5340	0.90	2.18	1.96	10	36	93
21°06'S	27°37'W	5365	0.33	2.01	0.66	8	37	94
19°34'	32°21'	4111	0.70	2.31	1.62	8	38	96
16°07'	33°01'	4636	0.66	2.21	1.46	7	39	97
12°29'	32°23'	4614	0.64	2.21	1.41	8	40	98
6°09'	31°03'	5086	0.60	2.17	1.29	10	41	101
2°11'S	31°04'W	4673	0.65	2.42	1.57	10	42	102
0°23'	39°08'	4188	-	2.33	-	-	46	102
0°29'	39°32'	4003	-	2.25	-	-	47	103
0°05'	41°47'	3864	0.55	2.42	1.33	7	48	104
0°48'N	43°52'	4027	0.64	2.44	1.56	10	49	105
7°28'N	46°40'W	4343	0.84	2.32	1.95	6	50	108
10°39'	50°00'	4942	0.67	2.23	1.59	8	51	109
13°02'	52°58'	5136	0.75	2.29	1.73	6	52	110
14°46'	69°18'	4257	0.49	2.34	1.15	7	53	119
14°27'	68°33'	4707	0.48	2.25	1.08	9	54	120
14°26'N	68°46'W	4775	0.57	2.22	1.27	10	55	121
16°08'	74°27'	3005	0.54	2.38	1.29	9	57	124
17°02'	71°14'	2208	0.71	2.37	1.67	10	58	125
18°33'	79°27'	4550	0.63	2.56	1.61	6	59	126
19°00'	81°02'	6251	-	2.42	-	-	60	127
20°27'N	83°22'W	3878	0.70	2.55	1.79	10	61	128
23°53'	85°52'	3462	0.44**	2.25	0.99	9	62	130
25°24'	86°22'	3254	0.83	2.08	1.73	3	63	131
24°59'	88°57'	3457	0.43**	2.15	0.92	10	64	132
22°59'	92°02'	3568	0.44**	2.10	0.92	10	65	133
23°02'N	92°03'W	3760	0.46**	2.19	1.01	10	66	134
23°29'	92°35'	3357	1.20**	2.16	2.59	10	67	135
23°27'	92°36'	3598	1.17**	2.26	2.64	10	68	136
25°51'	92°12'	2860	-	2.31	-	-	69	137
25°32'	92°33'	3321	0.38**	2.11	0.80	10	70	138

** The gradients given are based on the two deepest temperature measurements in the sediment.

Latitude	Longitude	Depth		Cond.	Heat		T'Grad		Core #	Stn. #
		M	Grad.		Flow	Eval.	#	#		
25°53'N	92°17'W	2500	0.35**	2.25	0.79	9	71	139	143	
23°46'	93°35'	3753	0.36**	1.98	0.71	10	72	140	144	
24°14'	91°41'	3742	0.59**	2.38	1.40	9	73	141	145	
25°50'	88°08'	3107	0.23**	2.21	0.51	10	74	142	146	
24°42'	86°15'	3349	-	2.03	-	-	75	143	147	
30°09'N	76°01'W	4860	-	-	-	-	76	146	150	
27°41'	74°13'	4480	0.52	2.26	1.18	10	77	147	151	
24°47'	74°22'	5048	0.45	2.27	1.01	8	78	148	152	
24°57'	73°30'	5340	-	2.48	-	-	79	149	153	
24°24'	74°01'	5150	-	-	-	-	80	150	154	
24°23'N	73°42'W	5327	0.65	2.30	1.50	6	81	151	155	
24°31'	73°35'	5351	-	2.40	-	-	82	152	156	
24°30'	68°34'	5729	-	2.38	-	-	83	153	157	
24°29'	65°18'	5803	0.61	2.22	1.34	10	84	154	158	
24°28'	62°30'	5920	0.63	2.47	1.54	8	85	155	159	
27°27'N	65°16'W	4872	0.54	2.18	1.18	10	86	156	160	
29°46'	69°53'	4883	0.47	2.37	1.10	10	87	157	161	
31°00'	67°06'	4578	-	-	-	-	88	158	162	
31°01'	67°07'	4766	-	-	-	-	89	159	162	
29°57'	68°56'	5258	0.50	2.42	1.21	10	90	160	163	
31°20'N	67°47'W	5132	0.92	2.17	2.01	5	91	161	164	
29°45'	68°41'	5216	0.56	2.07	1.16	10	92	162	165	
30°27'	67°59'	5161	0.56	2.17	1.22	10	93	165	168	
29°55'	68°43'	5231	-*	2.16	-	-	94	166	169	
30°50'	67°44'	5149	0.53	2.23	1.18	10	95	167	170	
30°05'N	68°17'W	5189	0.60	2.17	1.29	10	96	168	171	
31°41'	69°52'	5425	0.56	2.41	1.35	10	97	169	172	
32°09'	70°00'	5419	0.52	2.33	1.21	9	98	170	173	
32°03'	68°06'	5185	-	2.17	-	-	99	171	174	
32°03'	66°21'	4807	0.47	2.44	1.15	8	100	172	175	
32°16'N	68°51'W	5286	0.59	2.17	1.27	8	101	173	176	
32°32'	73°17'	5200	0.43	2.80	1.19	7	102	174	177	
33°56'	74°26'	3998	0.58	2.58	1.50	8	103	175	178	
36°03'	72°23'	3943	0.47	2.40	1.13	6	104	176	179	
37°33'	72°34'	2967	0.44	2.27	1.00	10	105	177	180	

** The gradients given are based on the two deepest temperature measurements in the sediment.

* Gradient not uniform with depth. Nearly zero in top 7m and 0.96°C/10m in 7m to 13 m interval

Table 2

DEFINITION OF EVALUATION INDEX

Index	Estimated Error Range	Reliability	Remarks (Typical Diagnostics)
9-10	5-10%	High	Three or more sediment temperatures
7-8	10-15%	Good	Only two probes in sediment. Conductivity may be assumed.
5-6	15-50%	Fair	Corer moved in sediment. Ap- parent shunting of thermistors.
4	> 30%	Poor	Only one probe in sediment.
<3	-	Unacceptable	

BRIEF DISCUSSION OF RESULTS

Heat Flow Measurements in the Caribbean Sea and Gulf of Mexico:

Stations 53-61 are located in the Caribbean Sea basins and these observations have been previously published in Epp et al (1970). When combined with previous observations in the Venezuela Basin, Beata Rise and Colombia Basin, they indicate heat flow very near the world average of $1.5 \mu\text{cal}/\text{cm}^2 \text{ sec}$. One value in the Cayman Trough and one in the Yucatan Basin indicate heat flow somewhat higher than the world average.

The measurements in the Gulf of Mexico, stations 62-75 (also published by Epp et al. , 1970), show the average heat flow to be about $0.83 \mu\text{cal}/\text{cm}^2 \text{ sec}$. When combined with previous values this average is significantly lower than the world average. Two stations over the Sigsbee Knolls, 67 and 68, indicate relatively high heat flow, about $2.5 \mu\text{cal}/\text{cm}^2 \text{ sec}$, which is believed to result from the funnelling of heat to the surface by high conductivity diapirs that underlie the Knolls. These relatively high values support the hypothesis that the diapiric structures that form the Sigsbee Knolls are a high conductivity material such as an evaporite.

The Guiana Basin Heat Flow Measurements: Six measurements of heat flow were made in the Guiana Basin, stations 46-52. These stations add to many earlier results in this basin north of the Brazilian Margin.

Stations 48-52 indicate values from 1.3 to 1.7 $\mu\text{cal}/\text{cm}^2$ sec. These are in general agreement with previous values. Stations 46 and 47 have valid sediment temperature measurements; however, the gradients observed are not uniform with depth, suggesting a significant variation of bottom water temperature in the recent past. The heat flows indicated by probes with the greatest separation in the sediment are low, 0.6 and 0.4 $\mu\text{cal}/\text{cm}^2$ sec for 46 and 47, respectively, but they are not believed to be representative of heat flow from the crust.

Measurements in the Brazil Basin: Stations 32 and 38 through 42 form a widely-spaced, N-S line of stations in the floor of the Brazil Basin. The values are quite uniform and not significantly different from the world average or previous measurements in the area.

A cluster of four closely-spaced stations were taken north and east of the Rio Grand Rise in a region of thin sedimentary cover (see Ewing et al., 1973). The values are very variable from 0.44 to 1.96 $\mu\text{cal}/\text{cm}^2$ sec. Such variability is characteristic of regions of thin or patchy sediment and probably reflects the near-surface distortion of heat flow by topography, sedimentary pockets and water circulation.

The relatively low values at stations 22 and 37 are in a region of very thin sedimentary cover on the west flank of the Mid Atlantic Ridge. A very large region on the western flank of the ridge is characterized by low heat flow. The reason for the low flux is not known but may result

from the predominant loss of heat by outflow of water through the nearly barren seafloor surface. Measurements at stations 1 and 3 are in a similar region in the North Atlantic and the values at these stations were also low.

Relatively few of the VEMA 26 measurements were made near the axis of the Mid Atlantic Ridge (stations 4-7 and 20 and 21). Both stations in the South Atlantic, 20 and 21, indicate higher than normal heat flow, whereas the three closely-spaced stations at 30°N yielded two nearly average values and a third value nearly $1/5$ average. This large variation within a short distance is typical of ridge values.

Stations 8-19 are in the eastern basins of the Atlantic. Stations 9 and 10 show below-average heat flow. A tightly spaced group of measurements, 15-19, yields values in good agreement showing the heat flow to be about $1.15 \mu\text{cal}/\text{cm}^2 \text{ sec}$. This group of stations is just east of the Sierra-Leone Rise.

Stations 76 through 105 are in the North American Basin. A large group of stations in a relatively small rectangular area, $29-32^{\circ}\text{N}$ by $66-70^{\circ}\text{W}$ (see Figure 1), indicate quite uniform heat flow with an average of about $1.2 \mu\text{cal}/\text{cm}^2 \text{ sec}$. A single high value station, 91 is an observation of poor quality and probably is not representative of the regional heat flow. Other values within the basin are in good agreement with numerous previous observations.

Water Temperature Profiles: Roughly one half of the stations were taken without a functioning pressure gauge so that no water temperature profiles were measured in the southwestern basins of the Atlantic, the Caribbean and the Gulf of Mexico.

Some of the profiles observed at stations in the eastern basins show the characteristic adiabatic increase of temperature with depth in the deepest water. The most notable feature of profiles in the North American Basin is the thin layer of predominantly Antarctic Bottom Water just above the bottom.

Conductivity: A special feature of the VEMA 26 data is a large number of accurate thermal conductivity measurements. At most stations many observations were made in a single core permitting correlation of conductivity with sedimentary type. In general, the lowest values are measured in diatomaceous oozes 1.8×10^{-3} cal/cm $^{\circ}\text{C}$ sec; clays have values of about 2.0×10^{-3} cal/cm $^{\circ}\text{C}$ sec; calcareous oozes and marls of about 2.4×10^{-3} cal/cm $^{\circ}\text{C}$ sec; and sands frequently have values greater than 3.0×10^{-3} cal/cm $^{\circ}\text{C}$ sec.

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Chief Scientists during the VEMA 26 cruise were David Epp, Thomas Aitken, Manik Talwani, Vincent Renard, Walter Pitman, III, Dennis Hayes, J. Lamar Worzel and J. Ewing. Measurements were made by R. John Fiske, III throughout the cruise. Captain H. C. Kohler as usual made an important contribution to the success of the scientific program of the cruise.

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DATA LISTINGS

Individual listings of the temperature and depth data are given for each station. Depths and corresponding in situ and potential temperatures (computed from Wüst, 1961) are given. At some stations malfunction of either the water probe or pressure gauge obviated any measurements, in such cases the listing of water temperatures is omitted.

Sedimentary conductivity values are listed with the depth of measurement in the sediment.

GEOHERMAL DATA PLOTS

The listed data for each station are presented graphically on the page adjacent to the listing. A note about the conductivity presentation: each value is printed at a depth corresponding to the distance from the top of the core to the point of measurement. This usually represents the true depth in the sediment within ± 10 cm.

*

TGRAD STATION V26-001
 032.37 N 059.10 W
 CRUISE STATION 008

WATER TEMPERATURES

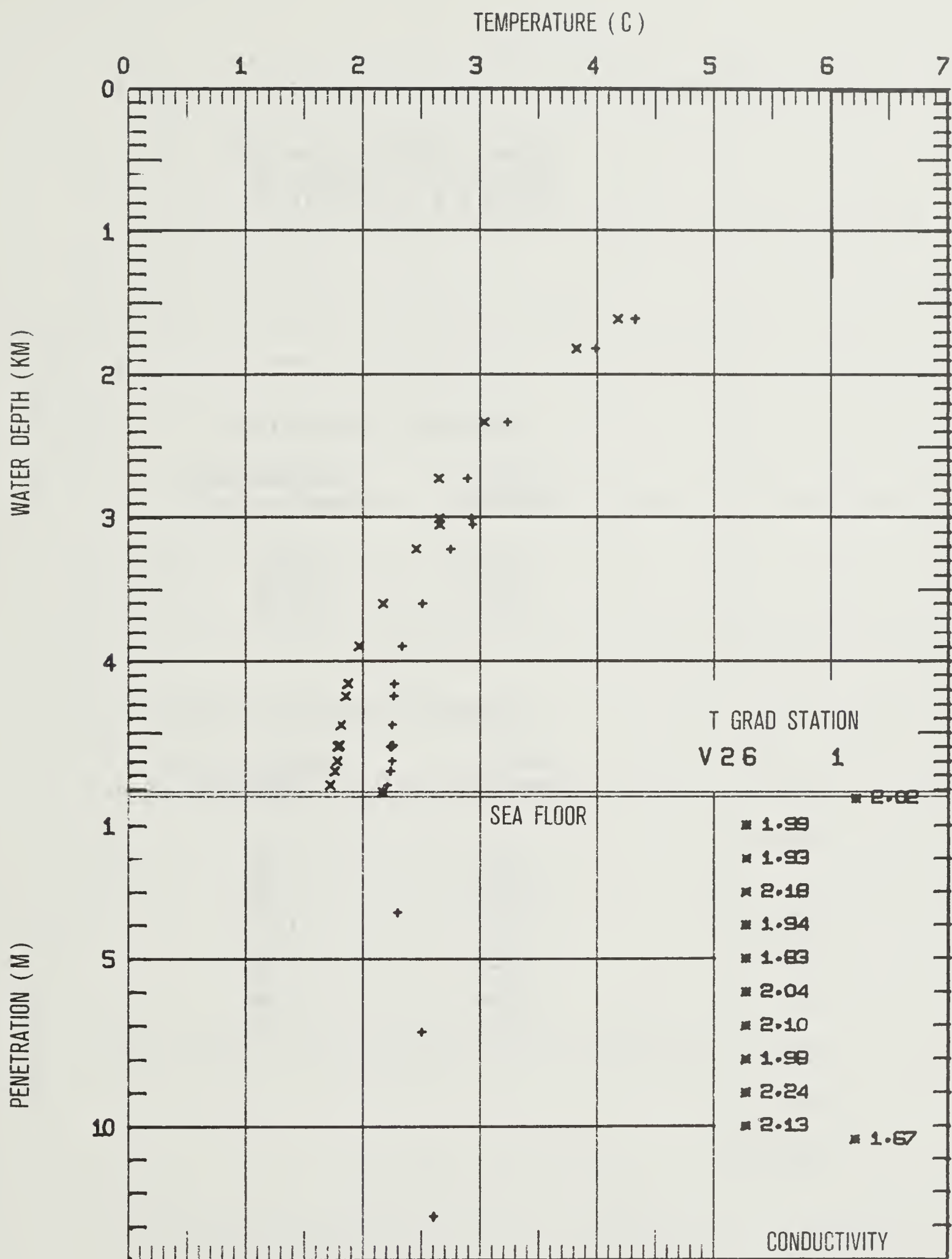
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1611	4.315	4.172
1814	3.977	3.816
2326	3.231	3.029
2723	2.881	2.644
2996	2.921	2.650
3045	2.929	2.651
3212	2.743	2.450
3592	2.505	2.173
3888	2.329	1.967
4150	2.263	1.869
4236	2.256	1.851
4440	2.246	1.815
4587	2.233	1.782
4582	2.250	1.798
4590	2.239	1.786
4587	2.238	1.786
4686	2.242	1.776
4759	2.233	1.757
4859	2.206	1.717

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.60	2.290
7.16	2.495
12.67	2.599

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.02
1.00	1.99
2.00	1.93
3.00	2.18
4.00	1.94
5.00	1.83
6.00	2.04
7.00	2.10
8.00	1.98
9.00	2.24
10.00	2.13
10.40	1.67



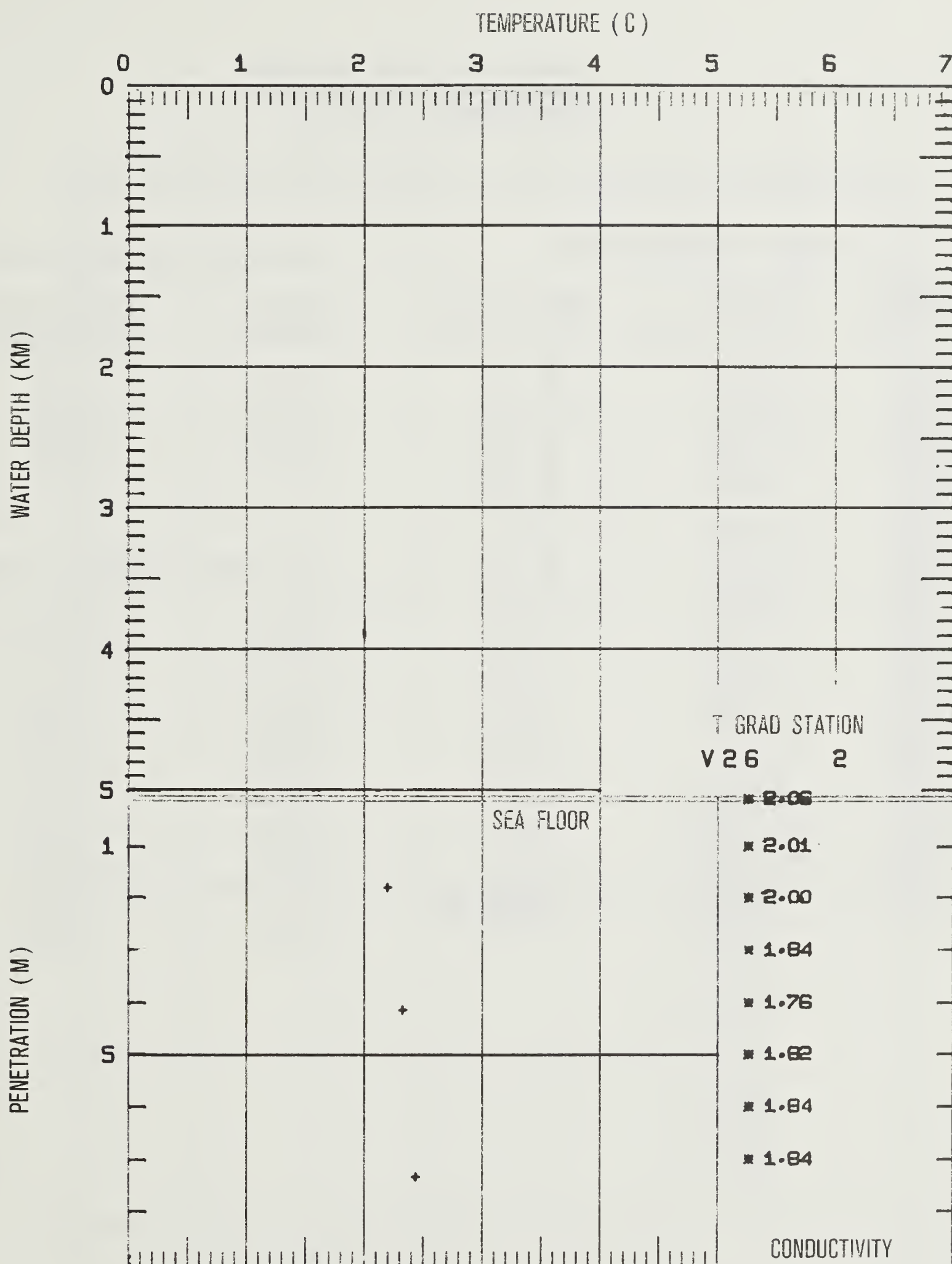
TGRAD STATION V26-002
032.42 N 052.35 W
CRUISE STATION 010

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.80	2.204
4.14	2.332
7.34	2.435

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.10	2.06
1.00	2.01
2.00	2.00
3.00	1.84
4.00	1.76
5.00	1.82
6.00	1.84
7.00	1.84



TGRAD STATION V26-003
 032.36 N 052.04 W
 CRUISE STATION 011

WATER TEMPERATURES

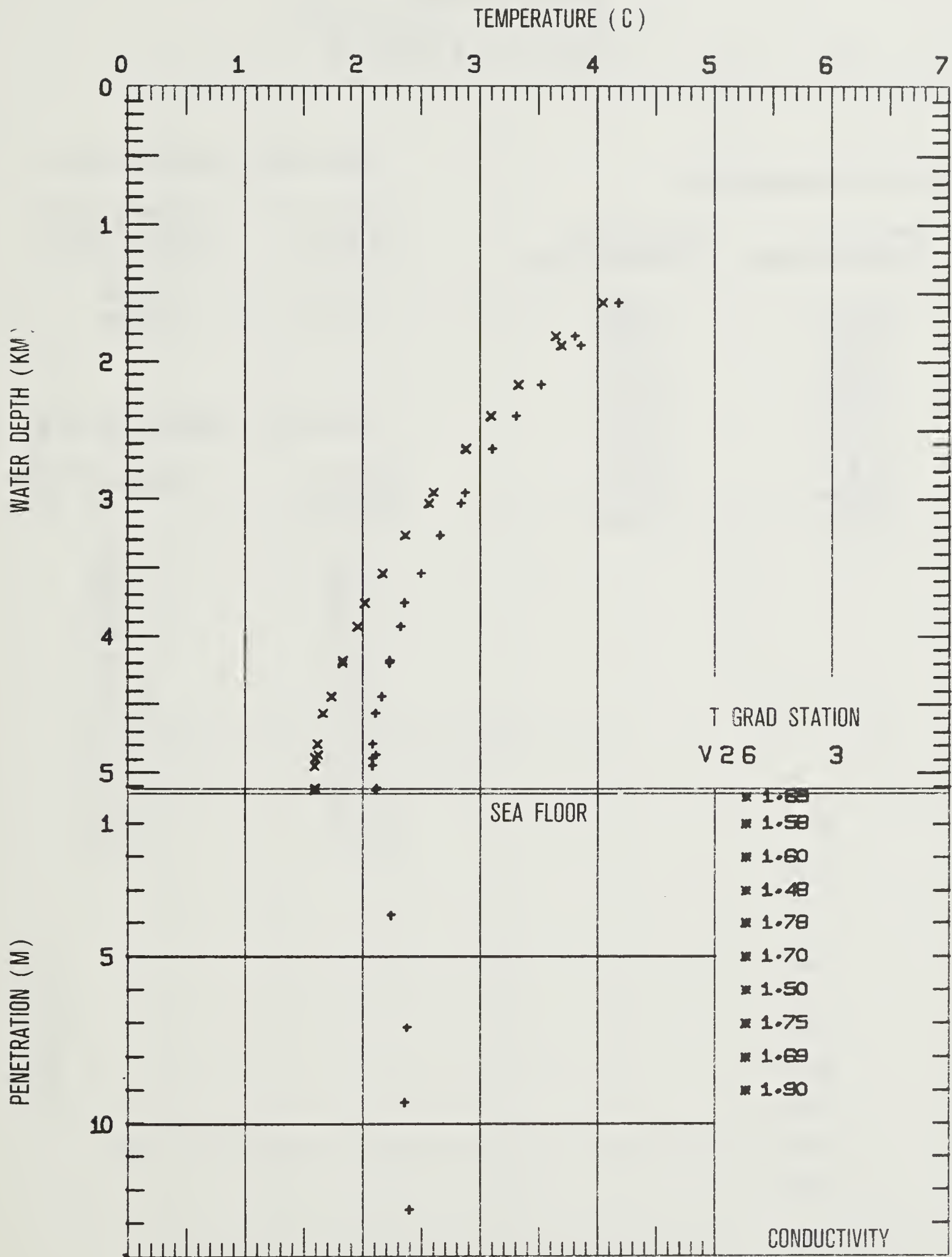
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1563	4.185	4.048
1810	3.812	3.654
1876	3.862	3.697
2162	3.525	3.335
2386	3.309	3.098
2624	3.114	2.881
2946	2.875	2.611
3025	2.844	2.572
3257	2.664	2.369
3534	2.503	2.179
3752	2.368	2.021
3923	2.329	1.963
4175	2.236	1.841
4191	2.236	1.838
4432	2.172	1.746
4557	2.117	1.674
4783	2.094	1.621
4886	2.092	1.605
4859	2.117	1.632
4942	2.092	1.596
5107	2.125	1.605
5117	2.118	1.595

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.76	2.253
7.11	2.381
9.35	2.367
12.57	2.403

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.69
1.00	1.58
2.00	1.60
3.00	1.48
4.00	1.78
5.00	1.70
6.00	1.50
7.00	1.75
8.00	1.69
9.00	1.90



TGRAD STATION V26-004
 029.54 N 045.07 W
 CRUISE STATION 018

WATER TEMPERATURES

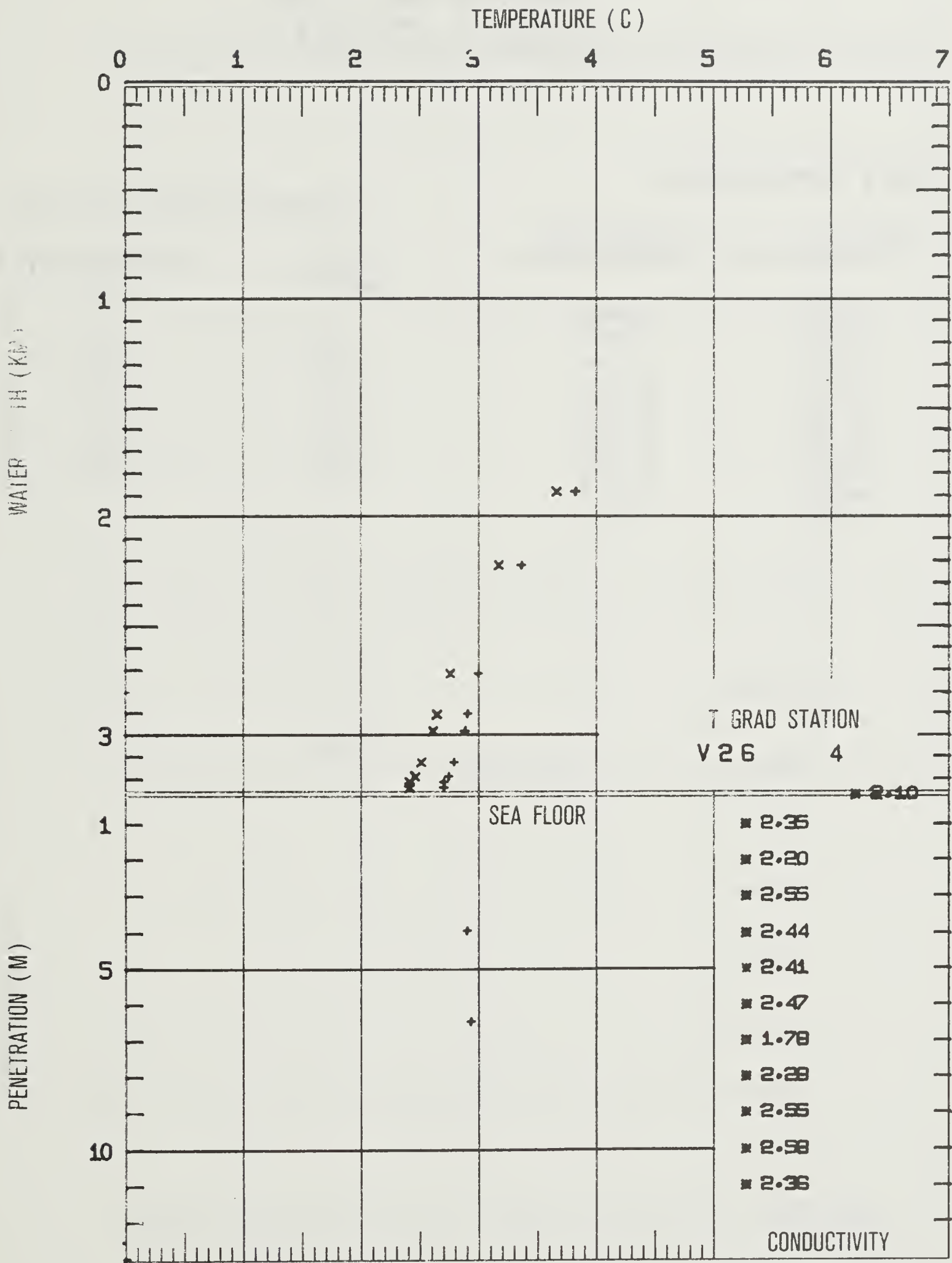
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1882	3.826	3.661
2221	3.367	3.173
2718	3.000	2.758
2905	2.904	2.644
2980	2.883	2.614
3126	2.791	2.508
3190	2.747	2.457
3215	2.704	2.414
3241	2.704	2.409

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.96	2.896
6.48	2.929

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.10
1.00	2.35
2.00	2.20
3.00	2.55
4.00	2.44
5.00	2.41
6.00	2.47
7.00	1.78
8.00	2.28
9.00	2.55
10.00	2.58
11.00	2.36



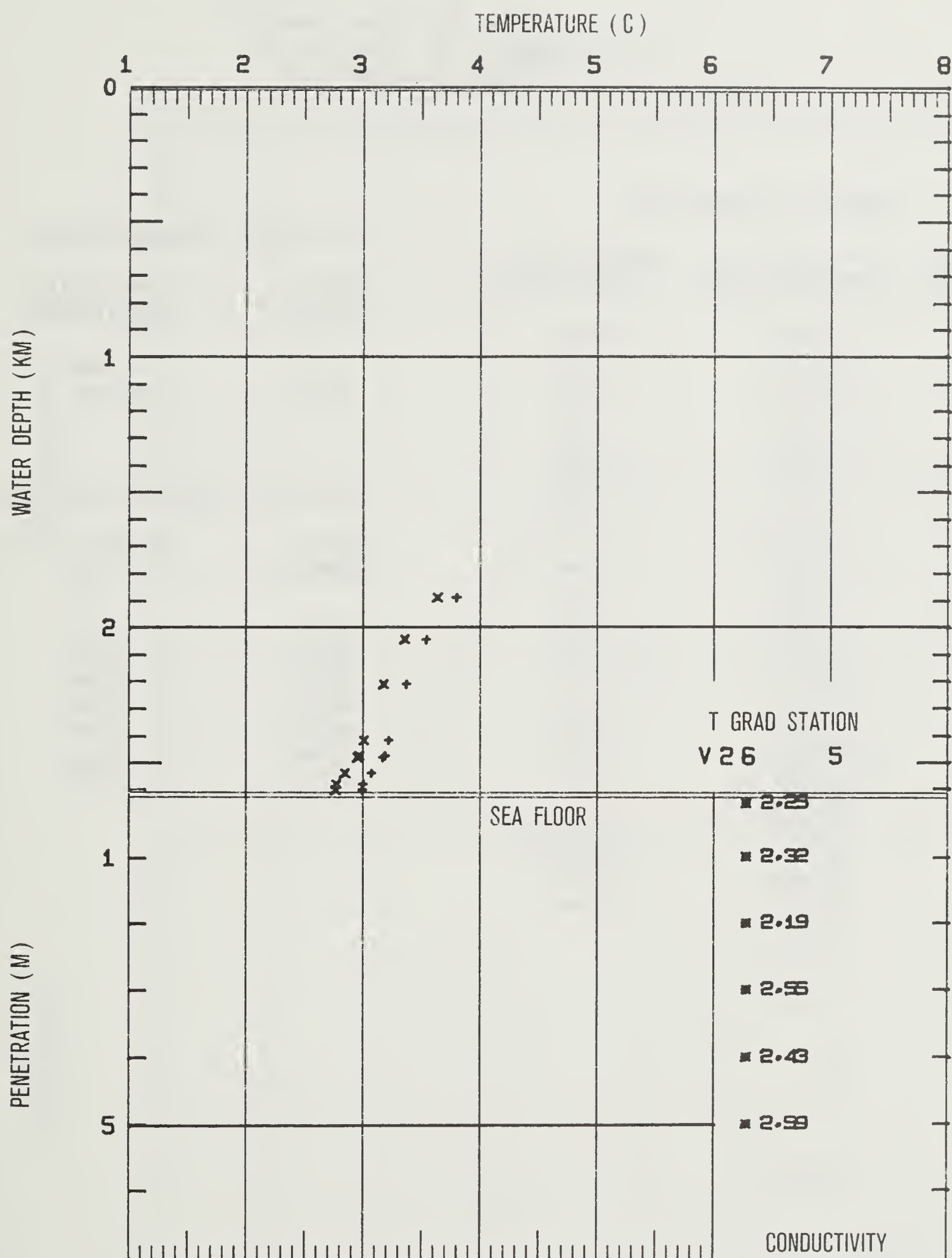
TGRAD STATION V26-005
029.48 N 045.11 W
CRUISE STATION 019

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1887	3.786	3.621
2043	3.522	3.345
2209	3.355	3.164
2416	3.210	2.999
2479	3.160	2.942
2473	3.177	2.960
2538	3.061	2.839
2577	2.993	2.767
2600	2.984	2.757

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.25
1.00	2.32
2.00	2.19
3.00	2.55
4.00	2.43
5.00	2.59



TGRAD STATION V26-006
 030.21 N 044.54 W
 CRUISE STATION 020

WATER TEMPERATURES

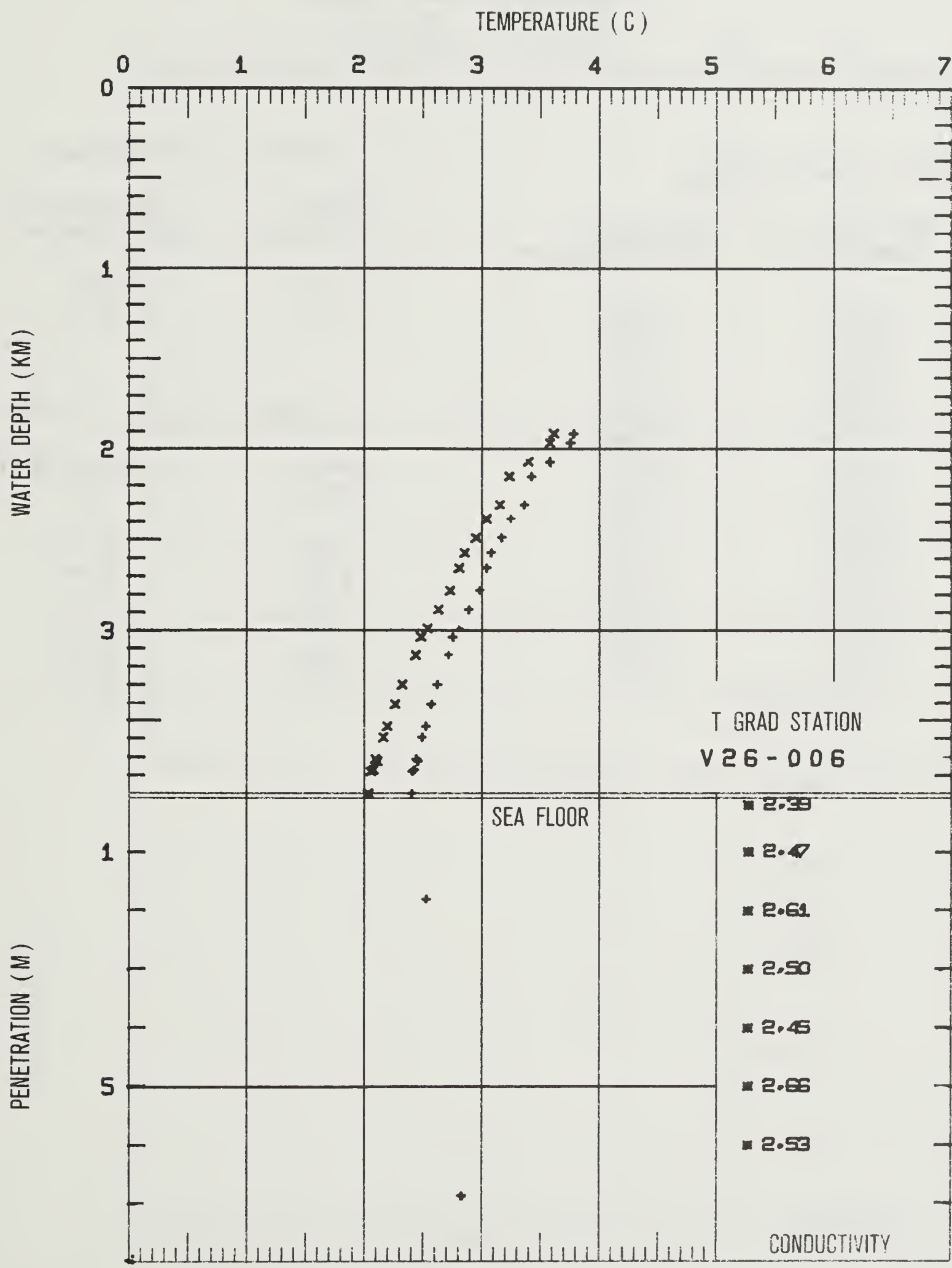
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1904	3.780	3.613
1959	3.751	3.579
2061	3.578	3.397
2144	3.424	3.237
2300	3.361	3.159
2377	3.251	3.043
2479	3.171	2.953
2561	3.082	2.857
2649	3.047	2.813
2769	2.986	2.740
2879	2.891	2.635
2983	2.809	2.543
3031	2.759	2.488
3129	2.725	2.444
3294	2.631	2.331
3402	2.579	2.269
3524	2.529	2.205
3586	2.499	2.168
3717	2.462	2.117
3706	2.450	2.107
3767	2.433	2.081
3775	2.416	2.065
3897	2.414	2.047

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.80	2.540
6.87	2.835

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.39
1.00	2.47
2.00	2.61
3.00	2.50
4.00	2.45
5.00	2.66
6.00	2.53



TGRAD STATION V26-007
 030.13 N 045.06 W
 CRUISE STATION 021

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1006	3.206	3.133
1422	3.030	2.923
1804	2.908	2.766
1900	2.927	2.776
2305	2.756	2.567
2729	2.624	2.390
3302	2.489	2.194
3384	2.493	2.188
3352	2.486	2.184
3398	2.496	2.190
3373	2.476	2.173
3581	2.469	2.140
3735	2.453	2.105
3772	2.440	2.088
3822	2.435	2.079

SEDIMENT TEMPERATURES

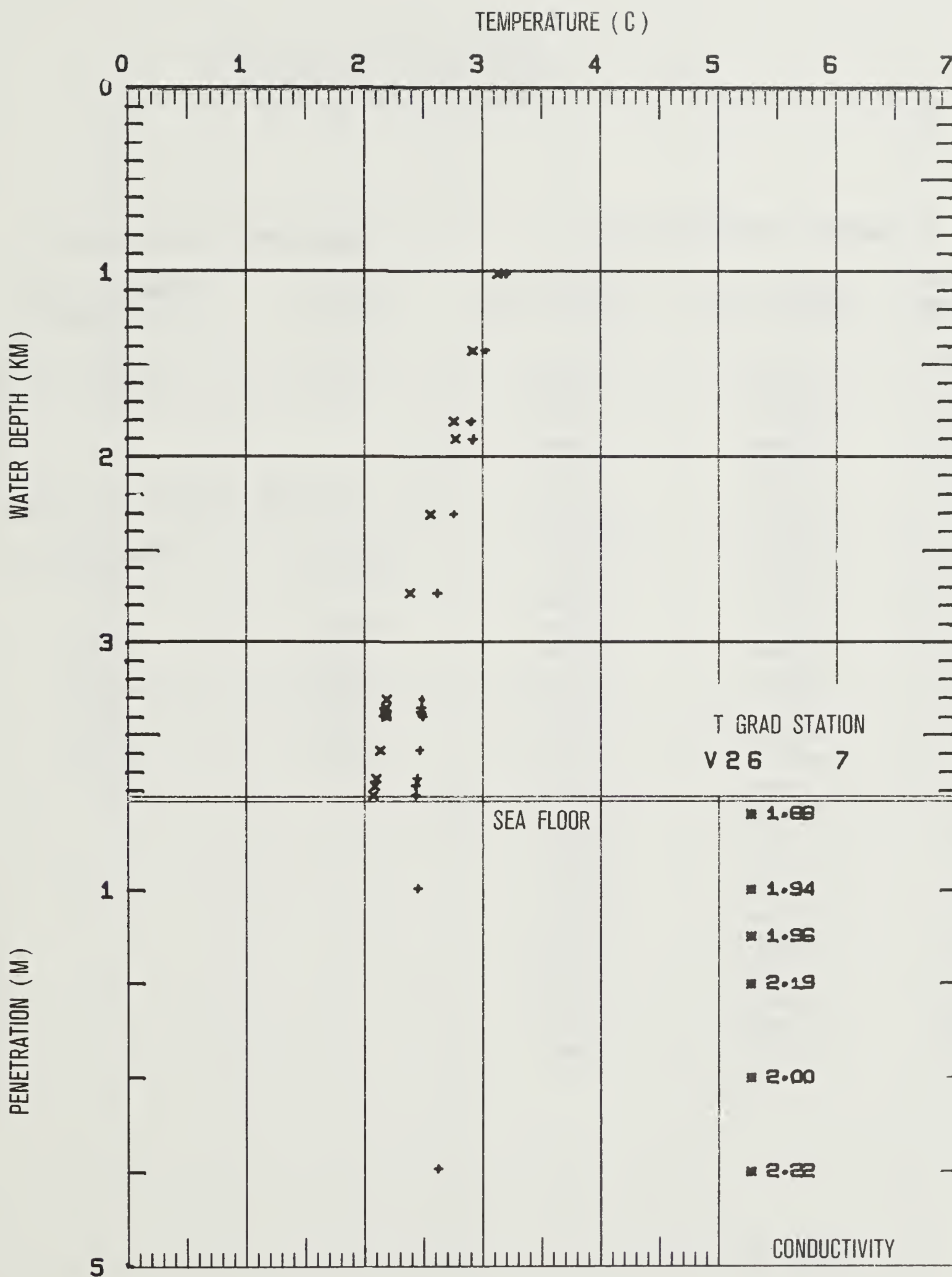
DEPTH METERS	TEMPERATURE CENTIGRADE
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0.99	2.460
3.97	2.625

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
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0.20	1.88
1.00	1.94
1.50	1.96
2.00	2.19
3.00	2.00
4.00	2.22



TGRAD STATION V26-008
 026.21 N 040.56 W
 CRUISE STATION 026

WATER TEMPERATURES

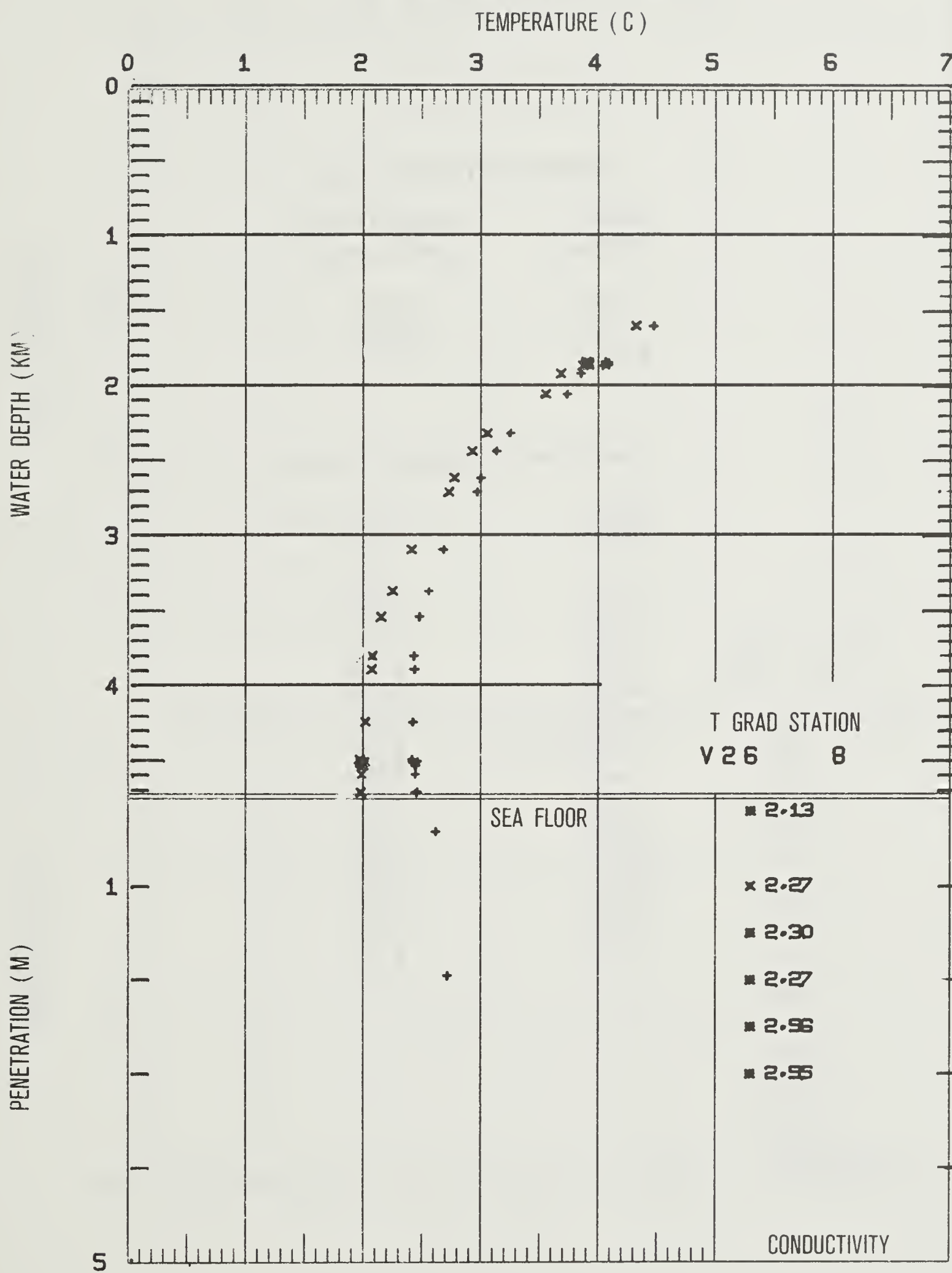
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1595	4.449	4.305
1843	4.054	3.890
1834	4.046	3.882
1838	4.068	3.904
1854	4.068	3.902
1853	4.042	3.876
1860	4.024	3.858
1912	3.839	3.671
2049	3.723	3.541
2313	3.245	3.045
2431	3.127	2.916
2606	2.994	2.766
2702	2.957	2.719
3085	2.674	2.401
3360	2.545	2.240
3534	2.461	2.139
3794	2.418	2.065
3884	2.425	2.060
4233	2.414	2.003
4499	2.443	1.996
4526	2.434	1.982
4487	2.404	1.960
4513	2.430	1.980
4506	2.410	1.963
4585	2.430	1.970
4702	2.443	1.966
4704	2.446	1.967

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE	
0.42	2.607	COOLING
1.95	2.703	COOLING

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.13
1.00	2.27
1.50	2.30
2.00	2.27
2.50	2.56
3.00	2.55



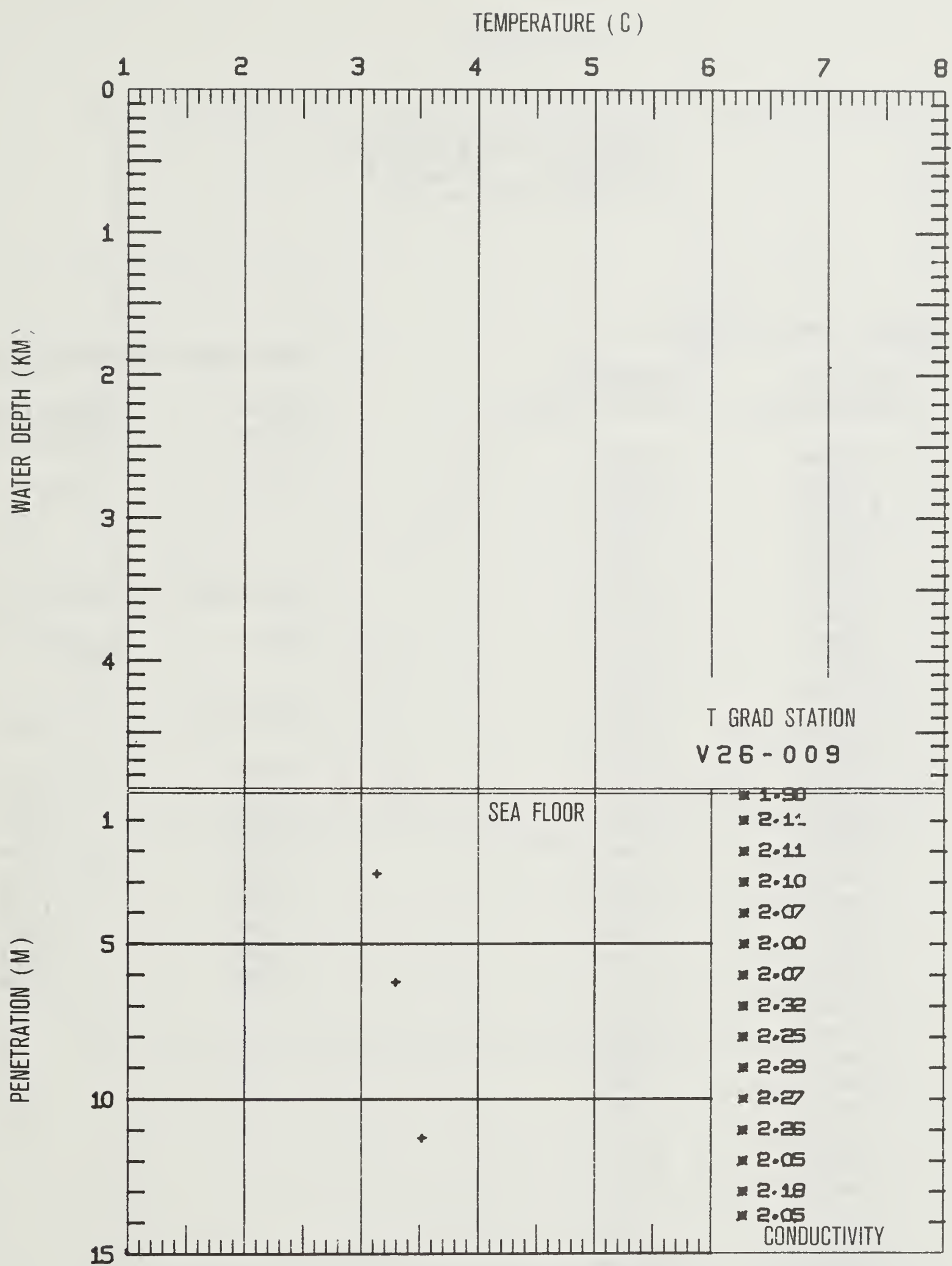
TGRAD STATION V26-009
016.38 N 031.06 W
CRUISE STATION 041

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.72	3.124
6.23	3.283
11.26	3.512

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.90
1.00	2.11
2.00	2.11
3.00	2.10
4.00	2.07
5.00	2.00
6.00	2.07
7.00	2.32
8.00	2.25
9.00	2.29
10.00	2.27
11.00	2.26
12.00	2.05
13.00	2.18
13.80	2.05



TGRAD STATION V26-010
 016.33 N 031.34 W
 CRUISE STATION 043

WATER TEMPERATURES

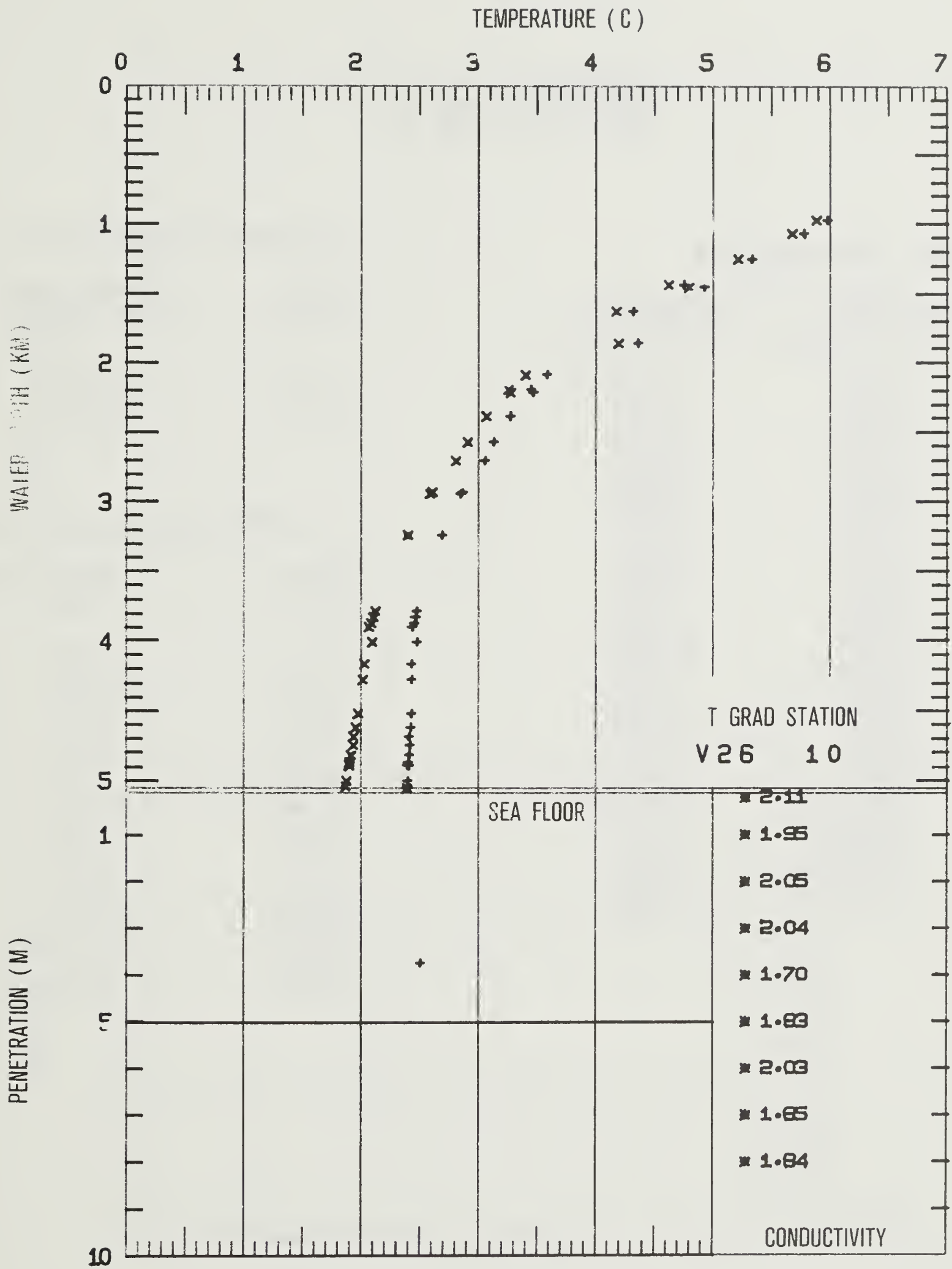
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
968	5.979	5.887
1065	5.776	5.675
1253	5.338	5.220
1453	4.934	4.799
1437	4.757	4.626
1629	4.323	4.178
1858	4.366	4.196
2087	3.591	3.407
2209	3.473	3.278
2189	3.450	3.259
2382	3.279	3.071
2565	3.138	2.910
2703	3.055	2.815
2928	2.874	2.611
2938	2.854	2.592
3236	2.696	2.402
3776	2.476	2.124
3824	2.473	2.114
3871	2.456	2.092
3898	2.437	2.069
4001	2.480	2.098
4161	2.431	2.029
4274	2.434	2.016
4520	2.430	1.980
4615	2.421	1.957
4682	2.414	1.940
4746	2.420	1.937
4818	2.410	1.917
4865	2.403	1.904
4891	2.408	1.905
4885	2.401	1.898
5004	2.398	1.880
5040	2.400	1.875

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.73	2.507

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
METERS	CGS
0.20	2.11
1.00	1.95
2.00	2.05
3.00	2.04
4.00	1.70
5.00	1.83
6.00	2.03
7.00	1.85
8.00	1.84



TGRAD STATION V26-011
 019.40 N 026.07 W
 CRUISE STATION 044

WATER TEMPERATURES

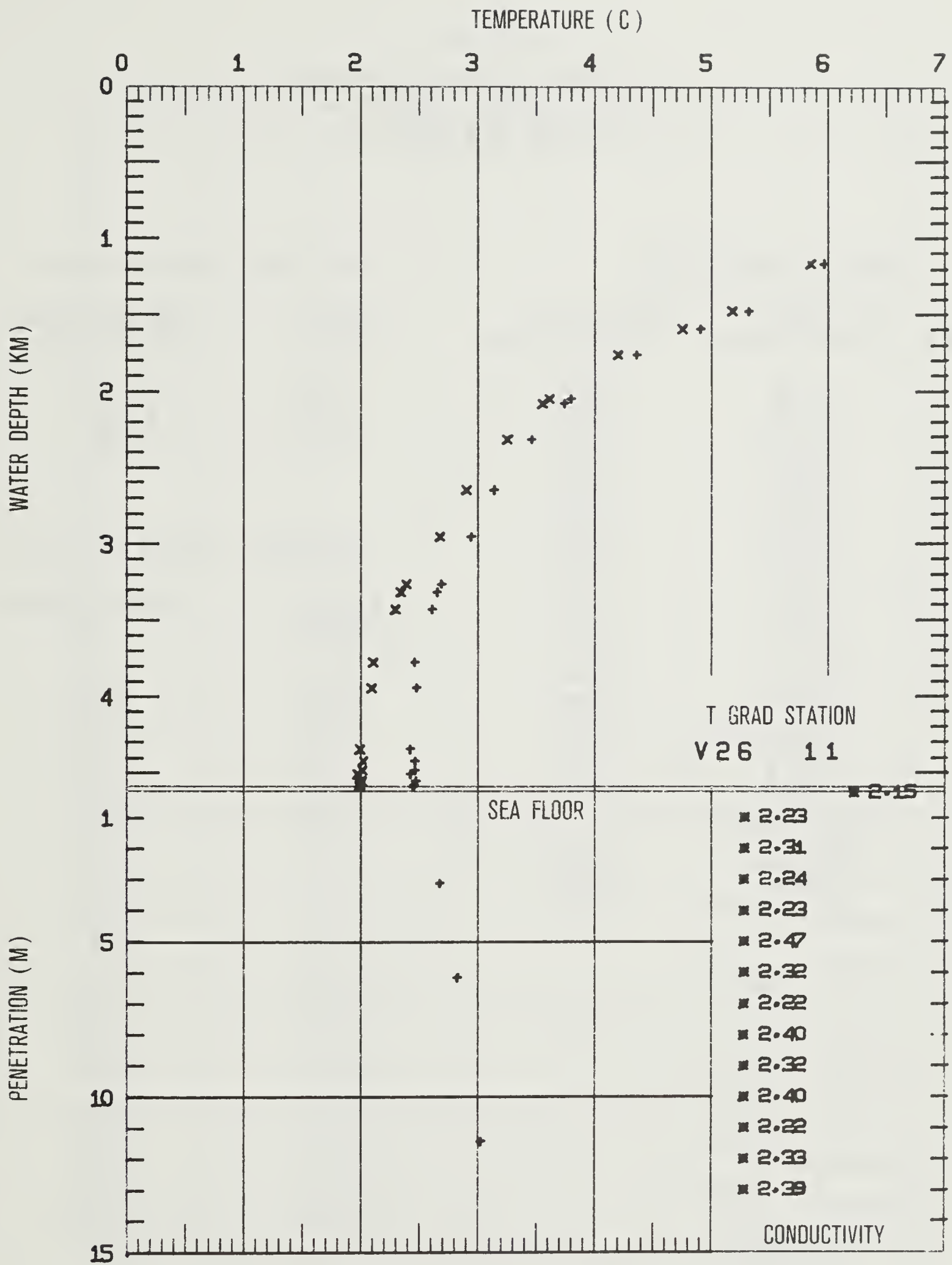
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1163	5.942	5.828
1472	5.302	5.161
1592	4.889	4.739
1756	4.354	4.194
2049	3.789	3.606
2078	3.729	3.543
2312	3.453	3.247
2644	3.132	2.896
2952	2.935	2.670
3260	2.681	2.385
3311	2.641	2.341
3423	2.605	2.292
3770	2.457	2.105
3935	2.468	2.094
4343	2.421	1.994
4414	2.456	2.019
4503	2.420	1.971
4479	2.456	2.010
4549	2.464	2.007
4572	2.451	1.993
4585	2.447	1.986

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.10	2.673
6.15	2.819
11.42	3.016

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.15
1.00	2.23
2.00	2.31
3.00	2.24
4.00	2.23
5.00	2.47
6.00	2.32
7.00	2.22
8.00	2.40
9.00	2.32
10.00	2.40
11.00	2.22
12.00	2.33
13.00	2.39



TGRAD STATION V26-012
 019.17 N 026.07 W
 CRUISE STATION 045

WATER TEMPERATURES

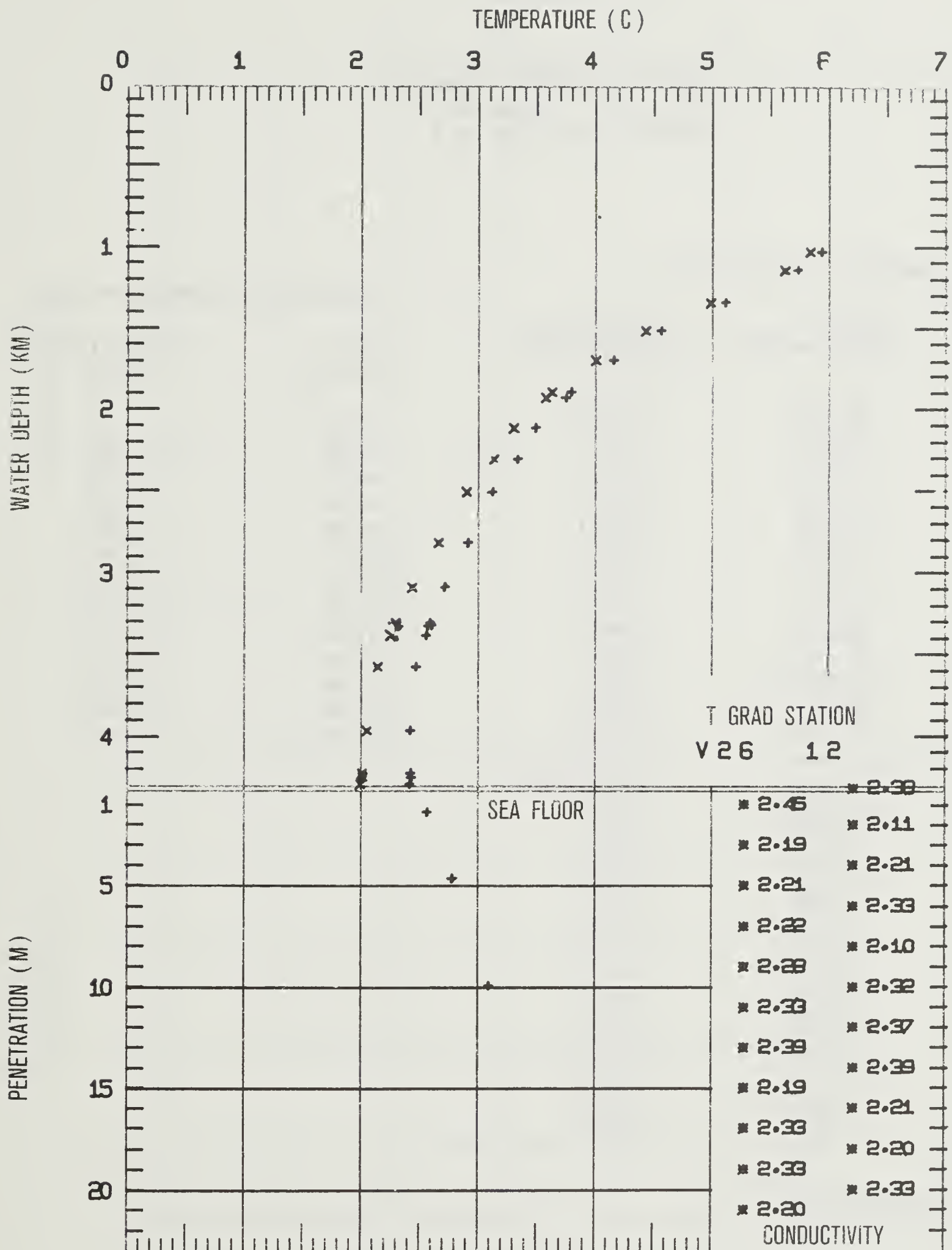
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1029	5.936	5.837
1143	5.729	5.619
1344	5.108	4.983
1515	4.566	4.429
1696	4.156	4.006
1892	3.799	3.634
1927	3.749	3.579
2114	3.492	3.308
2301	3.338	3.137
2501	3.124	2.904
2815	2.917	2.667
3085	2.716	2.440
3305	2.593	2.296
3319	2.602	2.302
3326	2.574	2.273
3382	2.555	2.249
3570	2.470	2.144
3964	2.424	2.048
4224	2.421	2.012
4248	2.429	2.016
4292	2.415	1.997

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.38	2.565
4.65	2.777
9.92	3.089

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.38
1.00	2.45
2.00	2.11
3.00	2.19
4.00	2.21
5.00	2.21
6.00	2.33
7.00	2.22
8.00	2.10
9.00	2.28
10.00	2.32
11.00	2.33
12.00	2.37
13.00	2.39
14.00	2.39
15.00	2.19
16.00	2.21
17.00	2.33
18.00	2.20
19.00	2.33
20.00	2.33
21.00	2.20



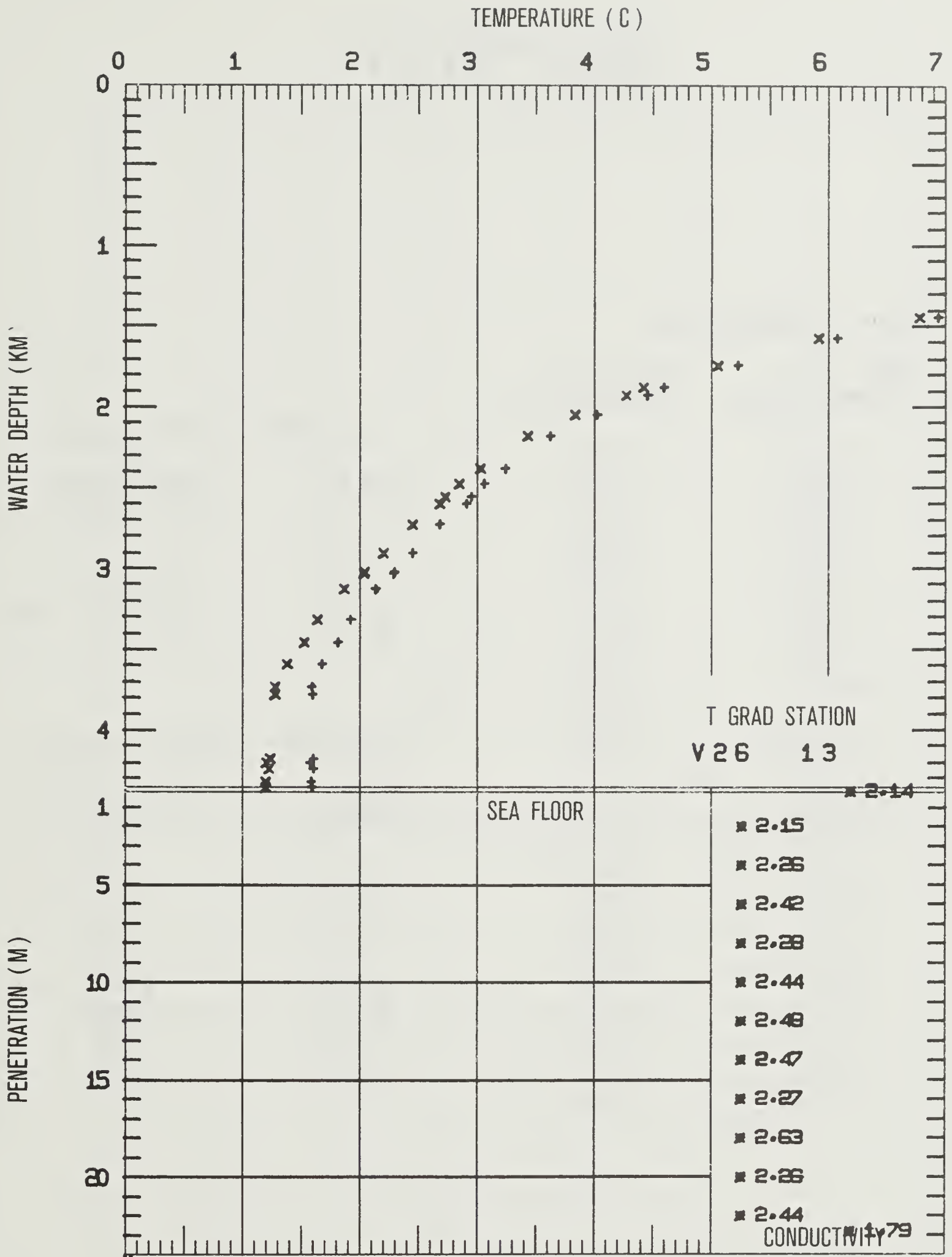
TGRAD STATION V26-013
 019.17 N 026.07 W
 CRUISE STATION 047

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1148	8.440	8.304
1235	8.130	7.984
1281	7.967	7.817
1443	6.951	6.793
1569	6.086	5.923
1739	5.238	5.067
1878	4.605	4.428
1922	4.467	4.288
2044	4.036	3.849
2174	3.640	3.447
2379	3.250	3.041
2472	3.076	2.861
2551	2.962	2.742
2594	2.925	2.700
2721	2.699	2.467
2899	2.464	2.217
3026	2.308	2.050
3020	2.312	2.055
3122	2.151	1.888
3313	1.938	1.660
3454	1.835	1.542
3587	1.698	1.397
3729	1.612	1.298
3777	1.618	1.296
4172	1.627	1.256
4199	1.595	1.223
4235	1.625	1.246
4316	1.608	1.220
4352	1.612	1.220

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.14
2.00	2.15
4.00	2.26
6.00	2.42
8.00	2.28
10.00	2.44
12.00	2.48
14.00	2.47
16.00	2.27
18.00	2.63
20.00	2.26
22.00	2.44
22.80	1.79



TGRAD STATION V26-014
 009.34 N 018.11 W
 CRUISE STATION 050

WATER TEMPERATURES

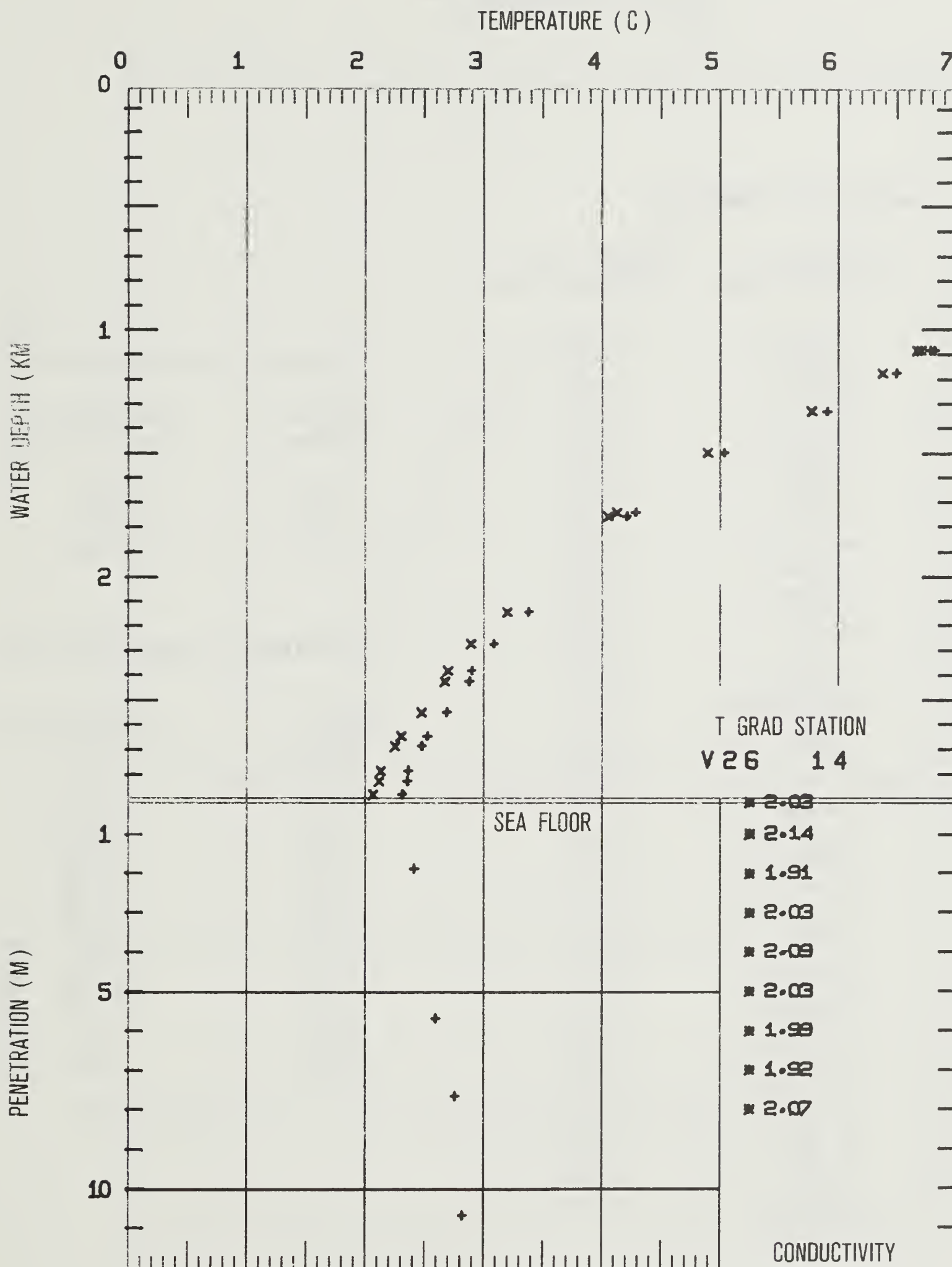
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
835	8.311	8.215
896	7.522	7.427
907	7.681	7.581
904	7.513	7.416
906	7.581	7.483
930	7.515	7.414
957	7.402	7.299
965	7.477	7.372
972	7.256	7.152
1083	6.840	6.727
1080	6.803	6.690
1175	6.519	6.398
1328	5.931	5.798
1499	5.059	4.916
1738	4.310	4.153
1754	4.234	4.078
2141	3.407	3.221
2269	3.111	2.918
2377	2.927	2.724
2423	2.901	2.696
2549	2.717	2.501
2645	2.552	2.330
2684	2.502	2.277
2784	2.389	2.157
2824	2.381	2.144
2880	2.336	2.094

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE	
1.88	2.436	
5.68	2.617	
7.65	2.776	COOLING
10.68	2.836	

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.03
1.00	2.14
2.00	1.91
3.00	2.03
4.00	2.09
5.00	2.03
6.00	1.99
7.00	1.92
8.00	2.07



TGRAD STATION V26-015
 006.36 N 018.08 W
 CRUISE STATION 051

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
785	5.884	5.811
915	5.170	5.088
946	5.085	5.000
946	5.043	4.960
1129	4.766	4.667
1249	4.585	4.476
1366	4.389	4.270
1510	4.154	4.023
1568	4.113	3.976
1829	3.769	3.611
2107	3.454	3.270
2315	3.255	3.053
2466	3.111	2.896
2474	3.133	2.916
2622	2.962	2.733
2782	2.856	2.612
2957	2.747	2.486
3131	2.685	2.405
3272	2.620	2.325
3234	2.658	2.367
3370	2.581	2.276
3508	2.540	2.218
3667	2.481	2.141
3754	2.505	2.153
3944	2.448	2.074
4003	2.440	2.059
4119	2.384	1.990
4384	2.329	1.901
4470	2.336	1.897
4580	2.324	1.871
4660	2.313	1.848
4725	2.299	1.825
4802	2.284	1.800
4894	2.312	1.815

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.98	2.582
7.63	2.862
12.50	3.142

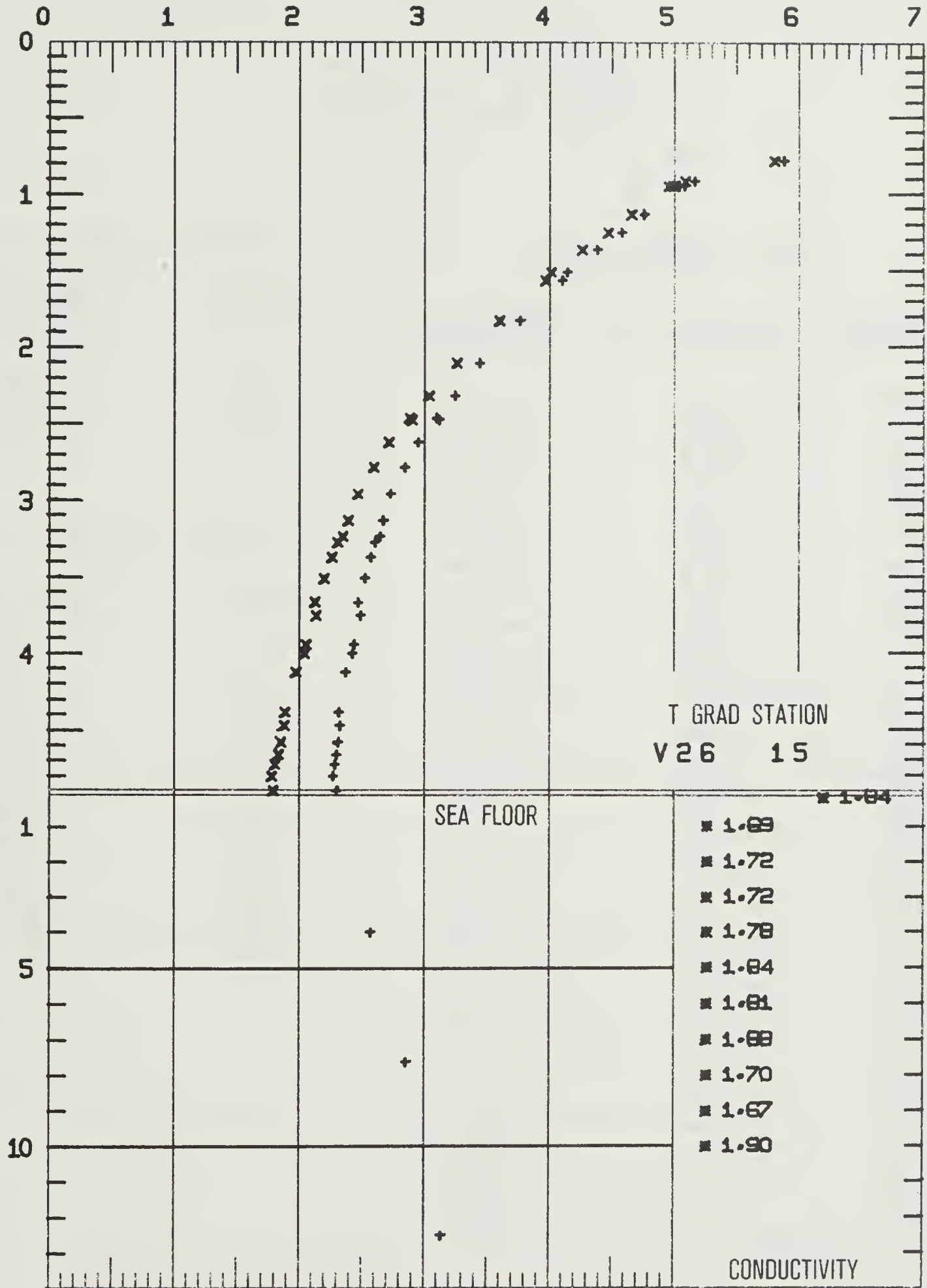
SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.84
1.00	1.69
2.00	1.72
3.00	1.72
4.00	1.78
5.00	1.84
6.00	1.81
7.00	1.88
8.00	1.70
9.00	1.67
10.00	1.90

TEMPERATURE (C)

WATER DEPTH (KM)

PENETRATION (M)

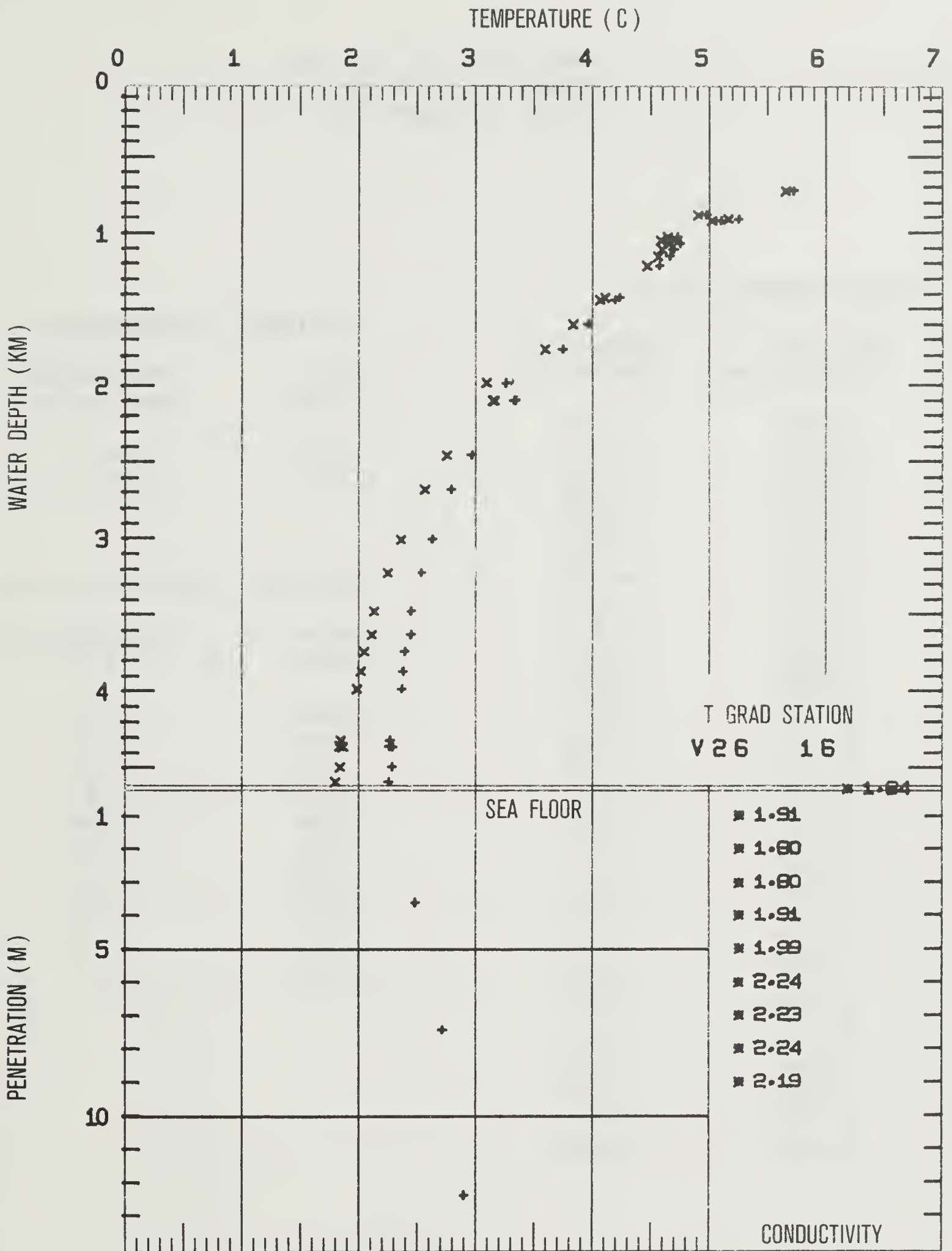


TGRAD STATION V26-016
 005.50 N 017.51 W
 CRUISE STATION 053

WATER TEMPERATURES			SEDIMENT TEMPERATURES	
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE	DEPTH METERS	TEMPERATURE CENTIGRADE
725	5.743	5.677	3.61	2.506
884	5.000	4.922	7.43	2.736
905	5.269	5.187	12.38	2.916
918	5.126	5.045		
1024	4.753	4.665		
1047	4.697	4.607		
1064	4.771	4.679		
1105	4.715	4.619		
1150	4.682	4.582		
1211	4.596	4.491		
1424	4.256	4.132		
1437	4.217	4.092		
1598	3.994	3.856		
1762	3.770	3.619		
1960	3.526	3.358		
2098	3.351	3.171		
2096	3.362	3.183		
2453	2.990	2.779		
2677	2.819	2.588		
3005	2.650	2.385		
3225	2.556	2.269		
3475	2.473	2.158		
3624	2.473	2.138		
3740	2.421	2.074		
3864	2.407	2.045		
3982	2.388	2.012		
4318	2.289	1.871		
4358	2.312	1.890		
4356	2.288	1.865		
4492	2.309	1.868		
4590	2.276	1.822		

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.84
1.00	1.91
2.00	1.80
3.00	1.80
4.00	1.91
5.00	1.99
6.00	2.24
7.00	2.23
8.00	2.24
9.00	2.19



TGRAD STATION V26-017
 006.16 N 017.55 W
 CRUISE STATION 054

WATER TEMPERATURES

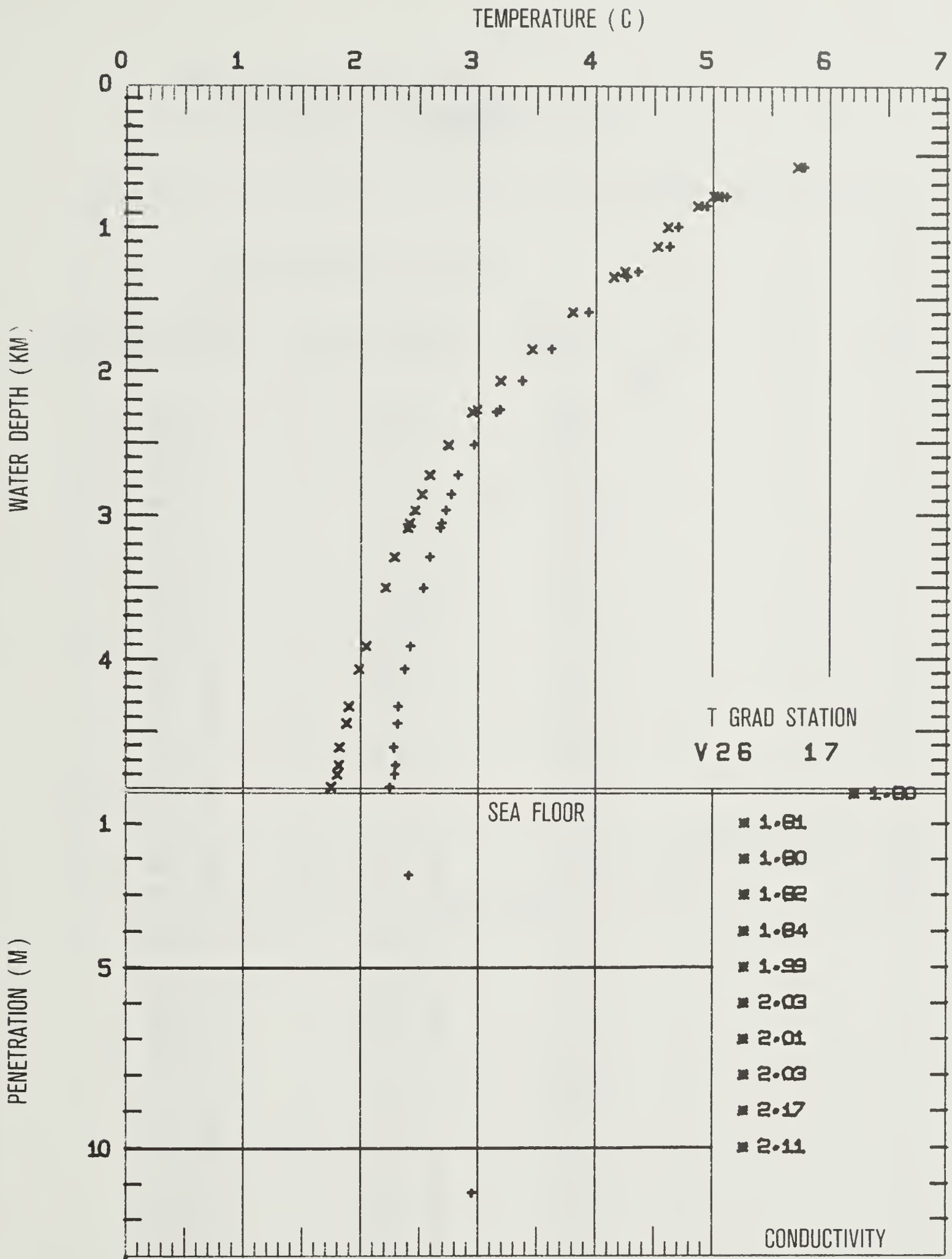
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
582	5.769	5.717
782	5.073	5.006
789	5.111	5.043
850	4.941	4.868
1002	4.705	4.620
1135	4.632	4.534
1308	4.362	4.250
1349	4.271	4.155
1591	3.946	3.809
1849	3.631	3.473
2067	3.383	3.206
2284	3.163	2.967
2269	3.197	3.001
2512	2.979	2.762
2723	2.842	2.605
2854	2.788	2.536
2966	2.740	2.477
3059	2.703	2.429
3091	2.692	2.416
3290	2.602	2.305
3503	2.552	2.230
3909	2.436	2.067
4067	2.394	2.006
4326	2.341	1.920
4447	2.334	1.898
4613	2.298	1.841
4734	2.310	1.835
4802	2.305	1.821
4887	2.262	1.766

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.45	2.421
11.27	2.961

SEDIMENT CONDUCTIVITIES

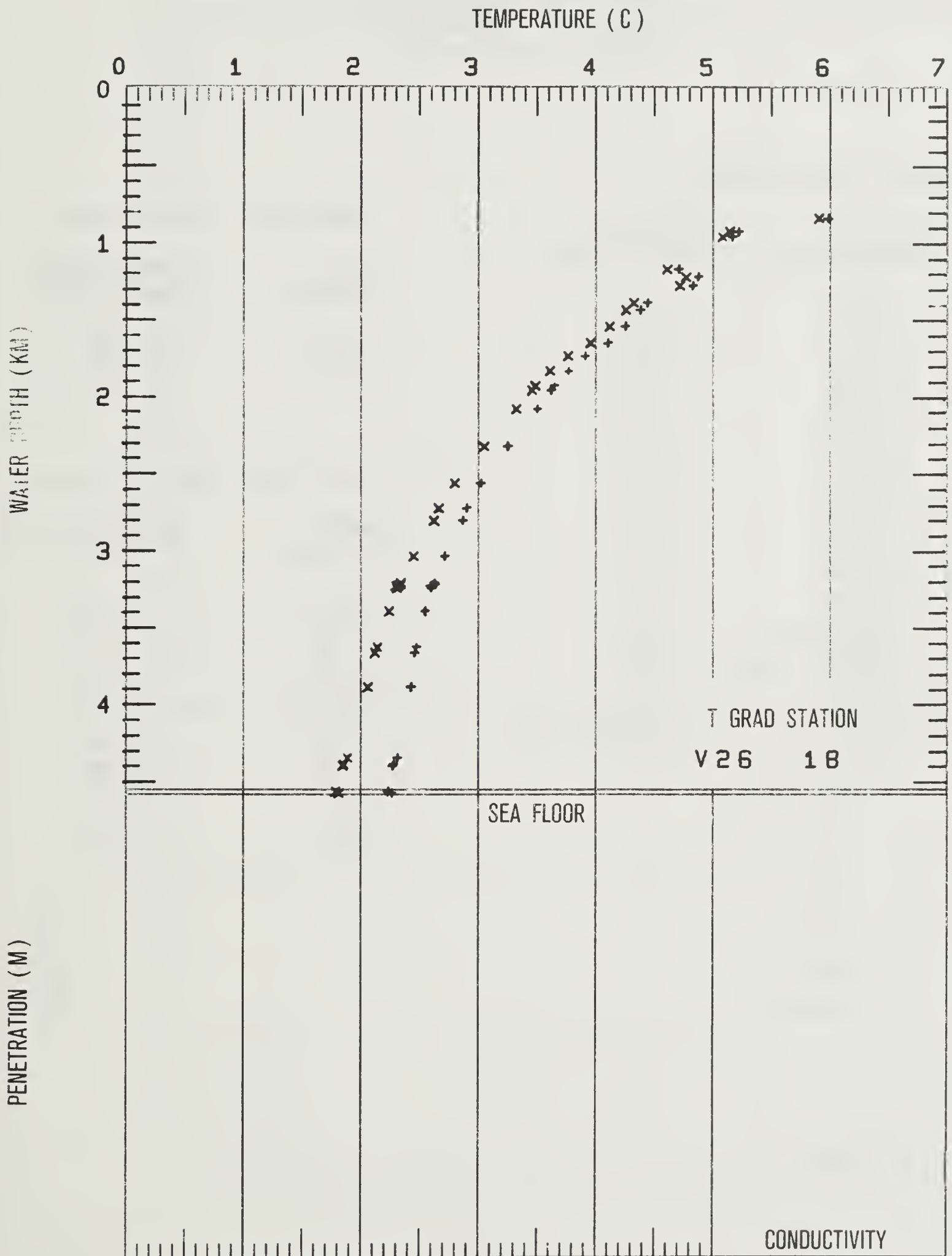
DEPTH METERS	CONDUCTIVITY CGS
0.20	1.80
1.00	1.81
2.00	1.80
3.00	1.82
4.00	1.84
5.00	1.99
6.00	2.03
7.00	2.01
8.00	2.03
9.00	2.17
10.00	2.11



TGRAD STATION V26-018
 006.02 N 018.15 W
 CRUISE STATION 055

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
826	6.010	5.932
916	5.247	5.165
948	5.190	5.105
1162	4.734	4.632
1216	4.897	4.788
1268	4.851	4.737
1381	4.465	4.344
1428	4.402	4.276
1536	4.270	4.135
1641	4.122	3.979
1727	3.934	3.783
1823	3.789	3.631
1923	3.671	3.503
1952	3.647	3.477
2072	3.525	3.344
2315	3.272	3.072
2554	3.041	2.818
2716	2.924	2.685
2798	2.890	2.644
3033	2.740	2.469
3207	2.652	2.363
3218	2.638	2.348
3214	2.655	2.365
3227	2.618	2.328
3227	2.618	2.329
3226	2.633	2.343
3239	2.625	2.334
3389	2.569	2.262
3623	2.500	2.166
3658	2.486	2.147
3880	2.449	2.084
4341	2.335	1.914
4394	2.298	1.871
4383	2.303	1.878
4564	2.260	1.812
4572	2.293	1.841



TGRAD STATION V26-019
 005.50 N 018.05 W
 CRUISE STATION 056

WATER TEMPERATURES

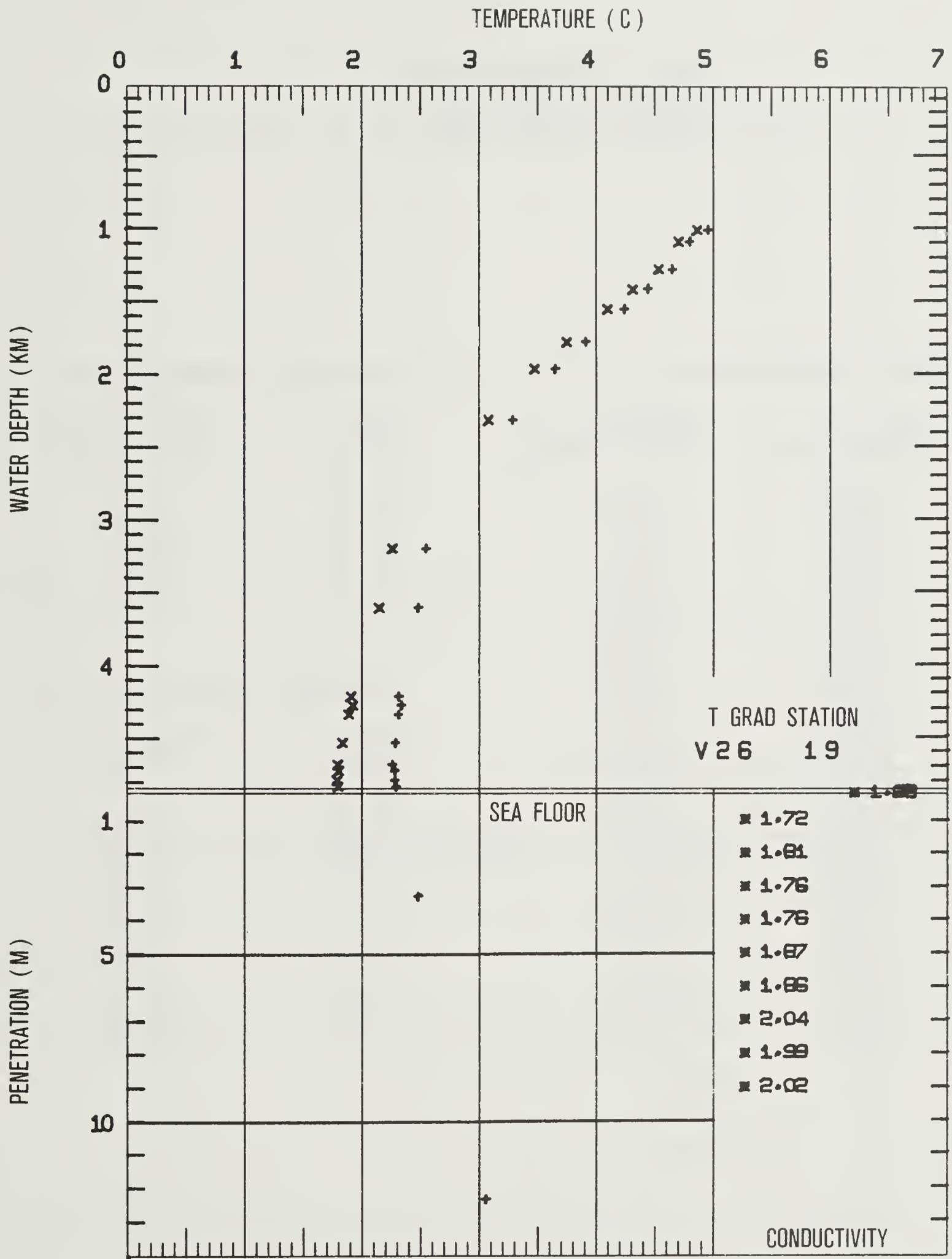
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1012	4.957	4.868
1094	4.803	4.708
1284	4.658	4.545
1421	4.451	4.326
1557	4.250	4.112
1780	3.922	3.766
1969	3.664	3.492
2319	3.303	3.100
3200	2.563	2.278
3606	2.497	2.165
4216	2.331	1.927
4270	2.349	1.937
4337	2.326	1.905
4528	2.298	1.852
4679	2.275	1.809
4725	2.289	1.816
4787	2.289	1.806
4831	2.302	1.813

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.30	2.493
12.35	3.062

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.98
1.00	1.72
2.00	1.81
3.00	1.76
4.00	1.76
5.00	1.87
6.00	1.86
7.00	2.04
8.00	1.99
9.00	2.02



TGRAD STATION V26-020
 005.28 S 011.56 W.
 CRUISE STATION 058

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
574	5.995	5.943
724	4.931	4.871
889	4.481	4.408
934	4.585	4.507
948	4.434	4.356
1035	4.064	3.981
1243	4.236	4.130
1292	4.196	4.086
1396	4.132	4.013
1429	4.125	4.003
1710	3.811	3.664
1852	3.466	3.309
1896	3.500	3.338
2115	3.308	3.127
2361	2.943	2.743
2585	2.805	2.585
2696	2.776	2.543
2515	2.928	2.712
2687	2.775	2.542
2683	2.767	2.536
2770	2.737	2.497
2876	2.684	2.434

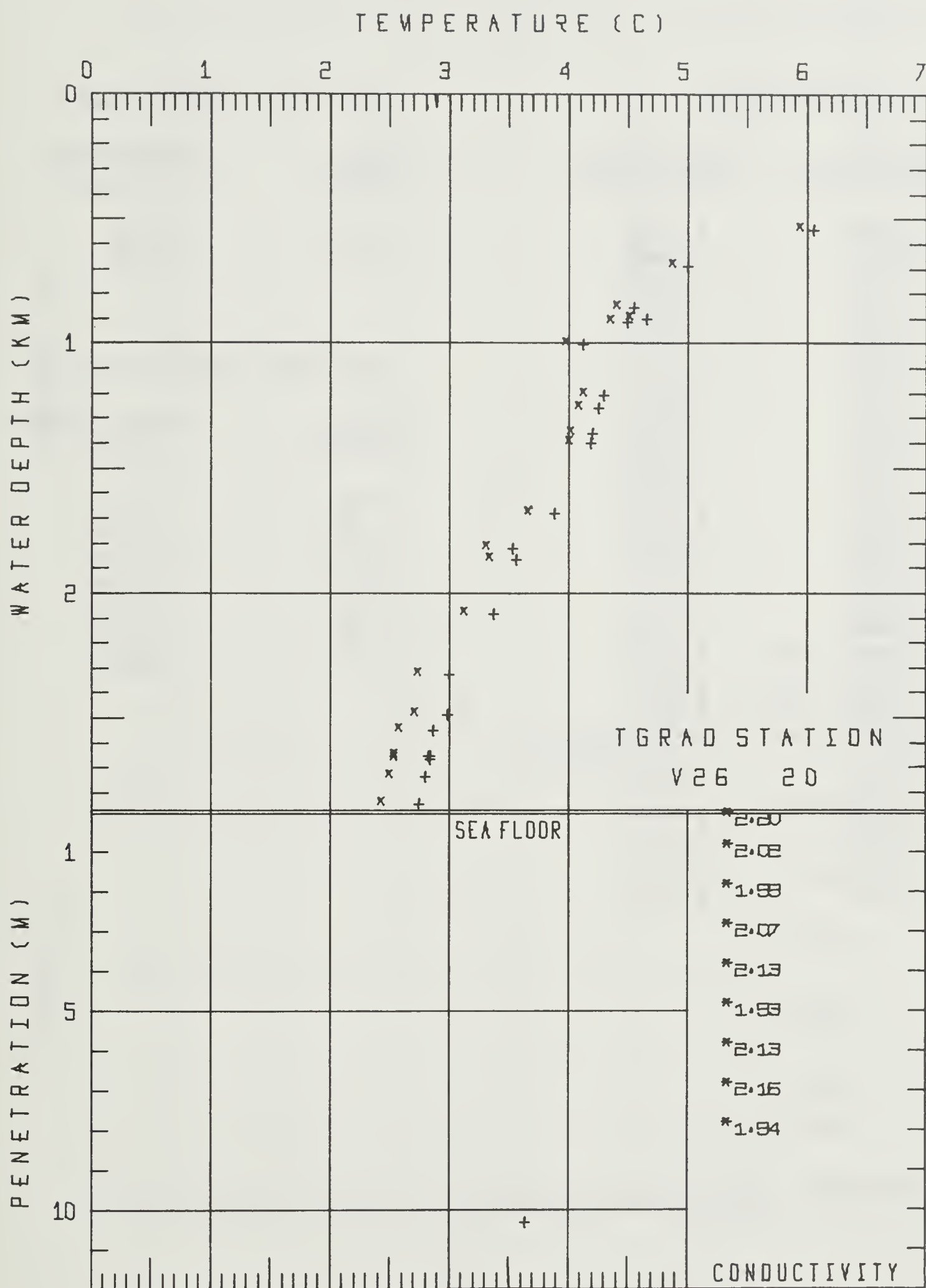
SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.20	2.738
5.40	3.088
7.46	3.209
10.52	3.579

COOLING

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.20
1.00	2.02
2.00	1.99
3.00	2.07
4.00	2.13
5.00	1.93
6.00	2.13
7.00	2.16
8.00	1.94



TGRAD STATION V26-021
 011.36 S 015.34 W
 CRUISE STATION 059

WATER TEMPERATURES

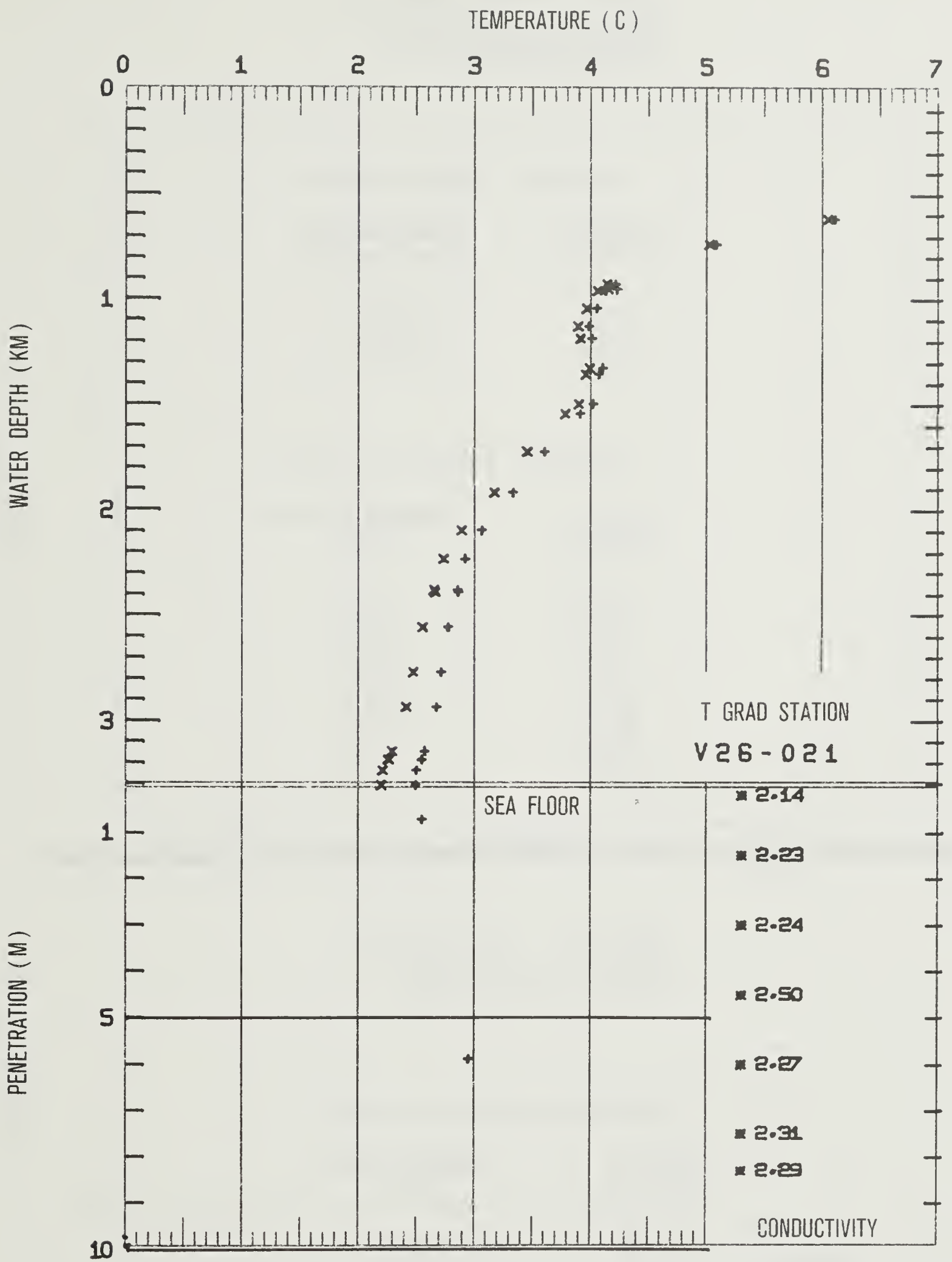
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
612	6.068	6.012
735	5.046	4.984
926	4.177	4.104
953	4.194	4.118
960	4.098	4.021
1043	4.016	3.934
1126	3.949	3.858
1185	3.977	3.881
1325	4.069	3.959
1354	4.038	3.924
1494	3.993	3.867
1544	3.878	3.749
1723	3.568	3.423
1918	3.299	3.139
2096	3.028	2.855
2232	2.889	2.704
2392	2.829	2.628
2379	2.824	2.625
2558	2.743	2.526
2769	2.683	2.443
2936	2.641	2.384
3146	2.546	2.267
3184	2.516	2.234
3184	2.520	2.238
3236	2.470	2.184
3306	2.466	2.171

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.75	2.515
5.90	2.925

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.14
1.50	2.23
3.00	2.24
4.50	2.50
6.00	2.27
7.50	2.31
8.30	2.29



TGRAD STATION V26-022
 016.16 S 022.15 W
 CRUISE STATION 060

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.39	1.085
4.92	1.125
9.85	1.194

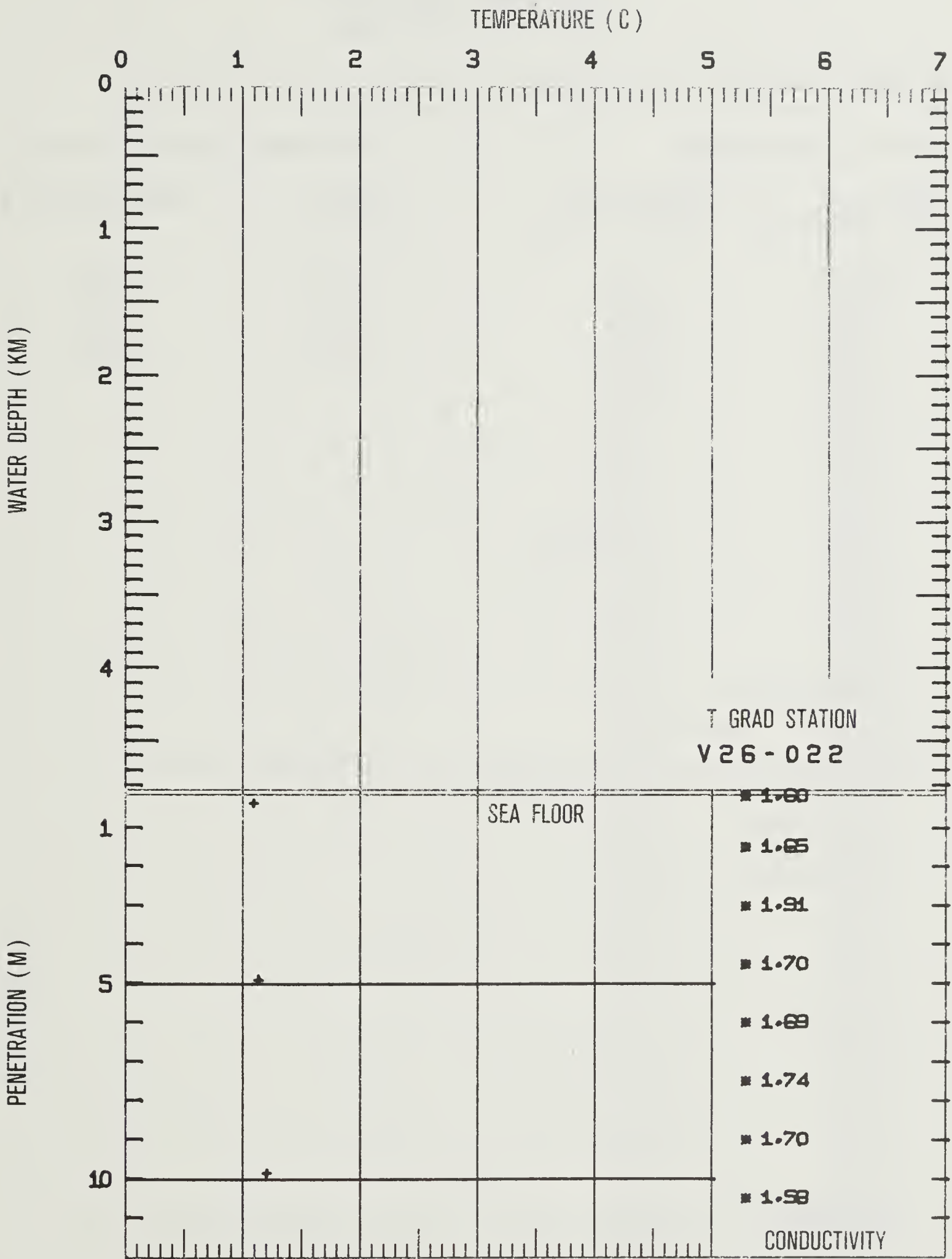
SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.60
1.50	1.65
3.00	1.91
4.50	1.70
6.00	1.69
7.50	1.74
9.00	1.70
10.50	1.58

TGRAD STATION V26-023
 023 58 S 037 57 W
 CRUISE STATION 067

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.94
1.00	2.17
4.00	2.19
7.00	2.08
12.40	2.11

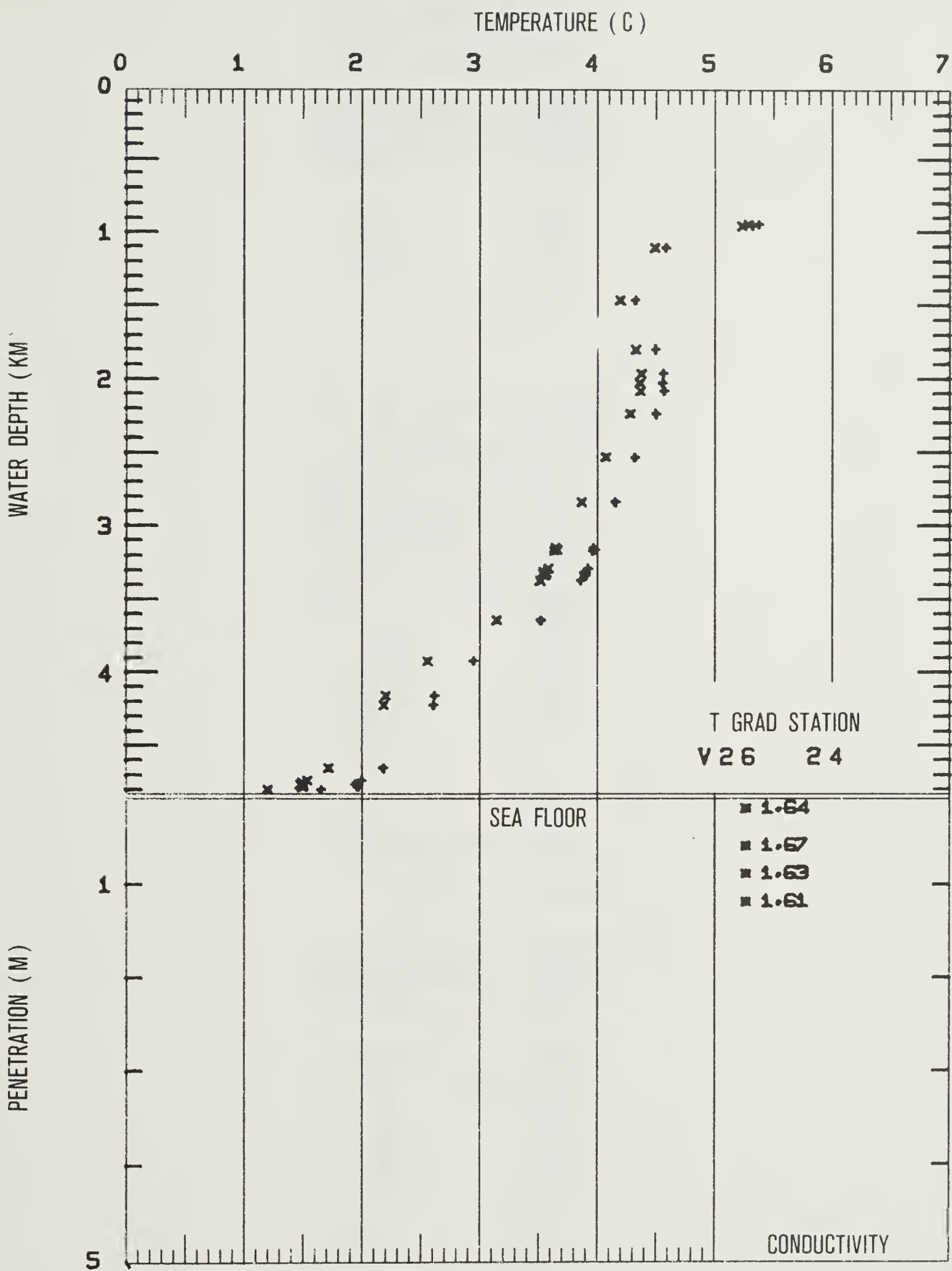


TGRAD STATION V26-024
 024 53 S 033 33 W
 CRUISE STATION 068

WATER TEMPERATURES

SEDIMENT CONDUCTIVITIES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE	DEPTH METERS	CONDUCTIVITY CGS
947	5.378	5.293	0.20	1.64
959	5.322	5.236	0.60	1.67
1110	4.590	4.495	0.90	1.63
1470	4.335	4.205	1.20	1.61
1804	4.507	4.339		
1970	4.571	4.383		
2033	4.565	4.371		
2086	4.578	4.377		
2241	4.508	4.289		
2539	4.333	4.082		
2844	4.165	3.880		
3171	3.993	3.670		
3332	3.895	3.552		
3347	3.910	3.565		
3332	3.910	3.567		
3319	3.901	3.559		
3298	3.928	3.589		
3339	3.907	3.562		
3339	3.913	3.568		
3323	3.921	3.579		
3292	3.934	3.595		
3175	3.970	3.646		
3153	3.980	3.659		
3170	3.986	3.661		
3379	3.870	3.522		
3649	3.532	3.158		
3925	2.960	2.569		
4162	2.630	2.219		
4227	2.618	2.199		
4653	2.190	1.733		
4740	2.012	1.549		
4774	1.983	1.516		
4756	1.977	1.513		
4785	1.980	1.513		
4769	1.983	1.517		
4772	1.980	1.515		
4766	1.956	1.493		
4802	1.674	1.220		



TGRAD STATION V26-025
026 42 S 027 52 W
CRUISE STATION 069

DEPTH METERS	CONDUCTIVITY CGS
0.30	1.73
1.00	2.58
1.70	2.77

TGRAD STATION V26-026
030 52 S 017 51 W
CRUISE STATION 074

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.35
1.00	2.23
2.00	2.42
3.00	2.41
3.35	2.38

TGRAD STATION V26-028
028 36 S 020 41 W
CRUISE STATION 077

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.85
1.00	1.74
1.50	1.80
2.00	1.84
3.00	2.09
4.00	2.03

TGRAD STATION V26-029
 028 29 S 020 26 W
 CRUISE STATION 079

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.66
1.00	1.72
2.00	1.68
3.00	1.78
4.00	1.76

TGRAD STATION V26-030
 028 19 S 020 54 W
 CRUISE STATION 080

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.95
0.60	2.05
1.20	1.91
2.00	2.15
3.20	2.24
4.00	2.25
5.00	1.95

TGRAD STATION V26-031
 025 10 S 025 16 W
 CRUISE STATION 082

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.80
1.00	1.90
2.00	1.79
3.00	1.80
4.00	1.93
4.40	1.67

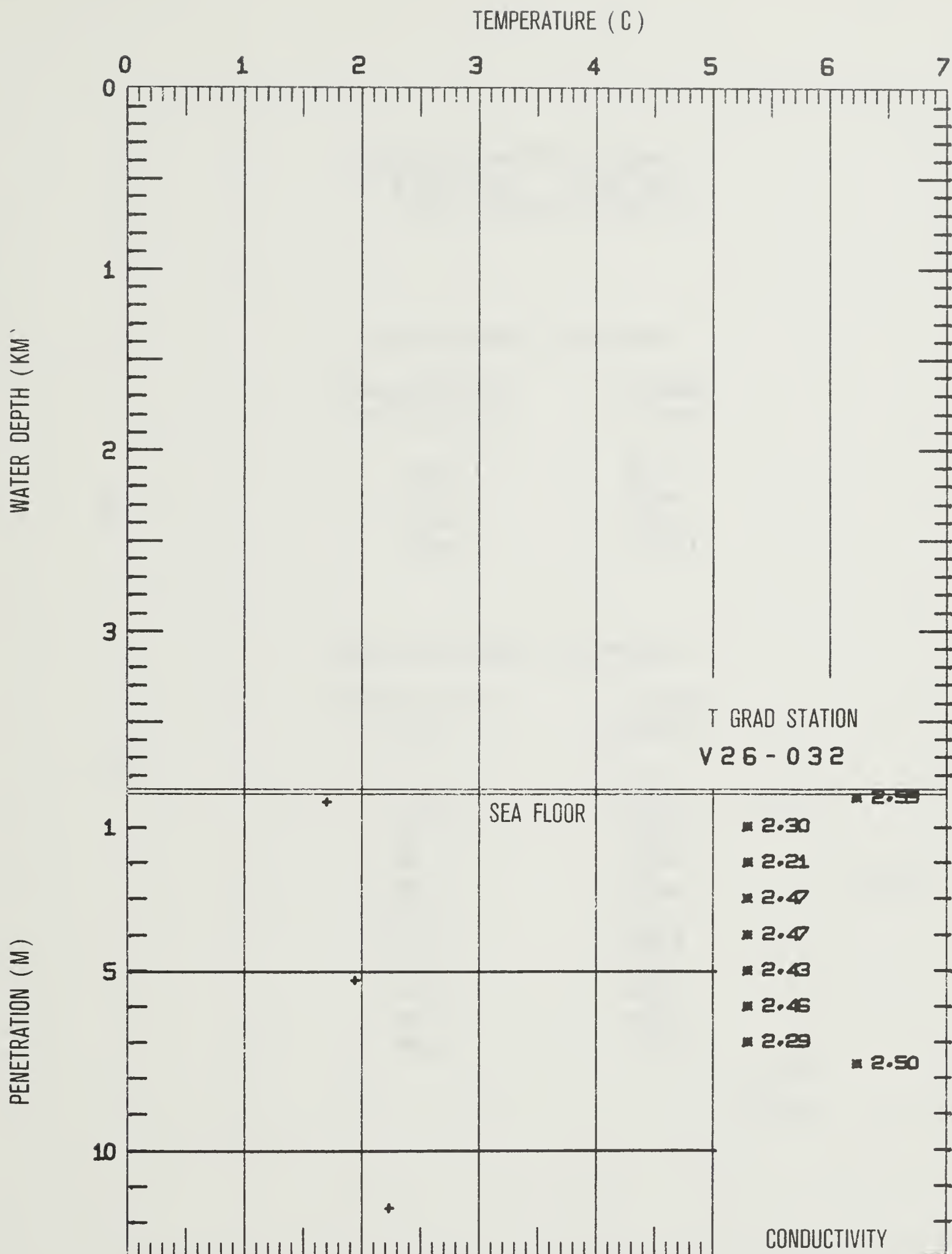
TGRAD STATION V26-032
029 18 S 037 16 W
CRUISE STATION 086

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.31	1.687
5.26	1.924
11.62	2.213

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.59
1.00	2.30
2.00	2.21
3.00	2.47
4.00	2.47
5.00	2.43
6.00	2.46
7.00	2.29
7.60	2.50



TGRAD STATION V26-033
028 20 S 026 39 W
CRUISE STATION 089

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.26	1.259
6.23	1.315
9.57	1.405
11.87	1.464

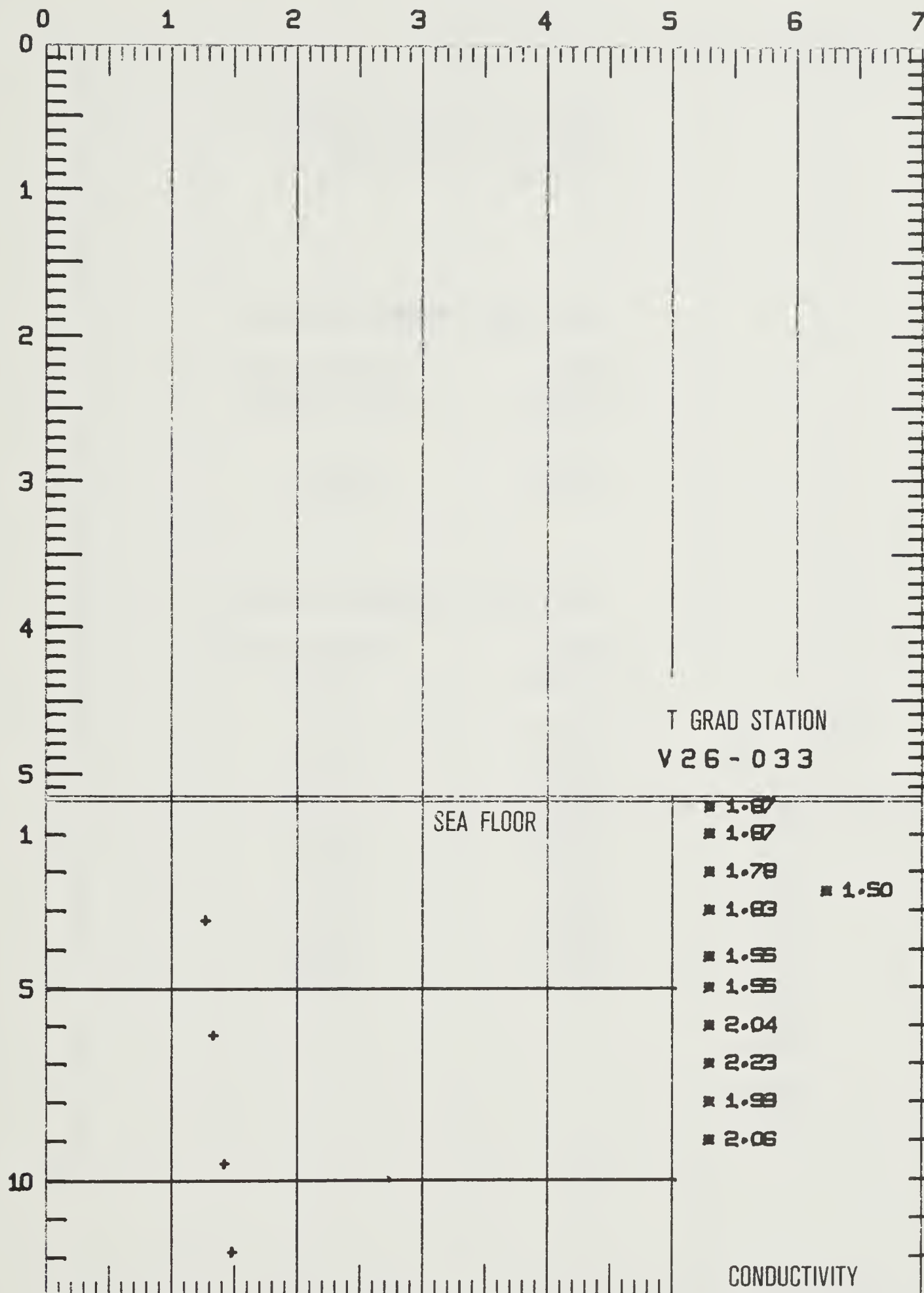
SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.30	1.87
1.00	1.87
2.00	1.78
2.50	1.50
3.00	1.83
4.20	1.55
5.00	1.55
6.00	2.04
7.00	2.23
8.00	1.99
9.00	2.06

TEMPERATURE (C)

WATER DEPTH (KM)

PENETRATION (M)



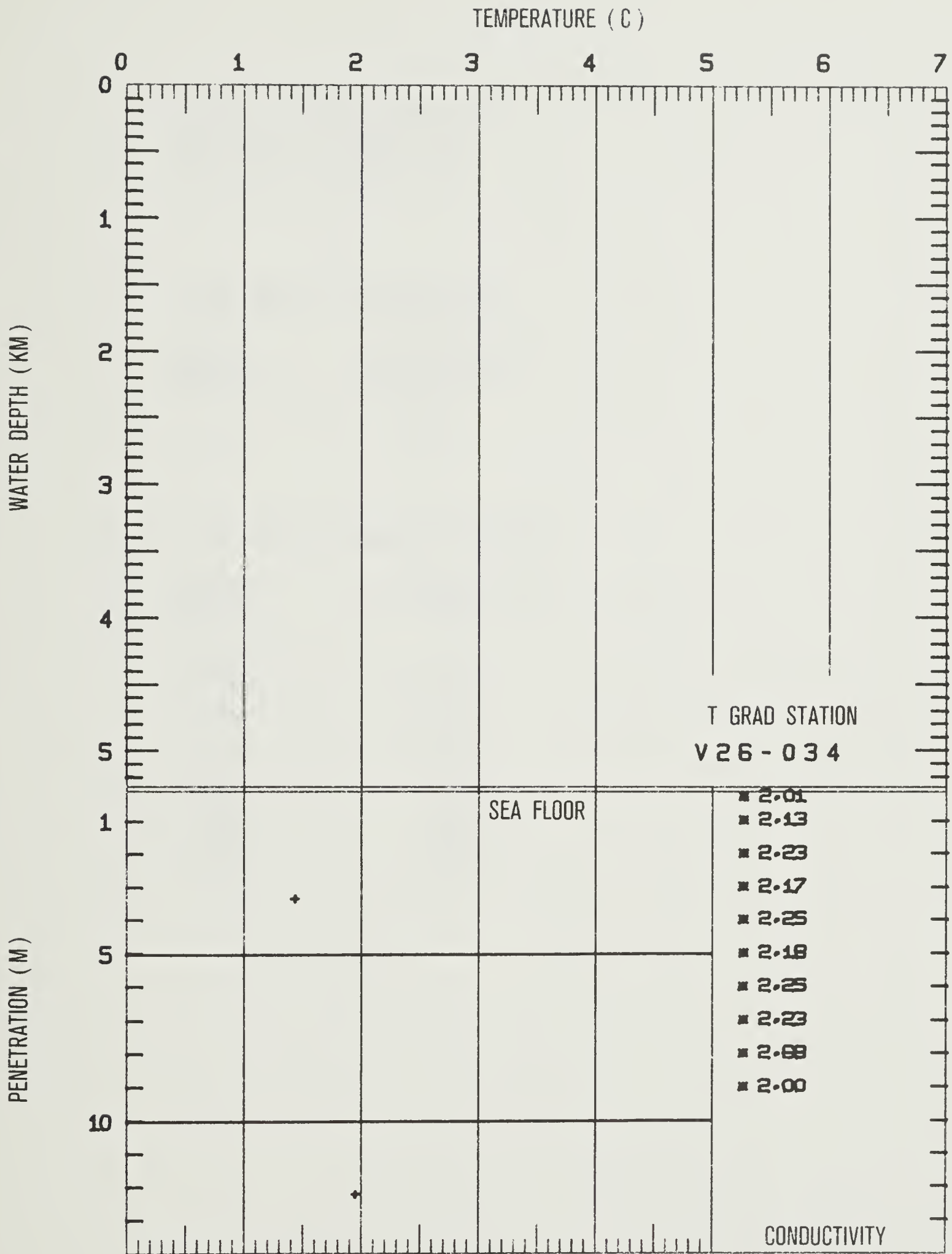
TGRAD STATION V26-034
028 51 S 026 09 W
CRUISE STATION 091

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.33	1.441
12.20	1.959

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.30	2.01
1.00	2.13
2.00	2.23
3.00	2.17
4.00	2.25
5.00	2.18
6.00	2.25
7.00	2.23
8.00	2.68
9.00	2.00



TGRAD STATION V26-035
028 32 S 023 42 W
CRUISE STATION 092

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
6.62	1.529

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.19
0.60	2.01
1.00	2.22
1.55	2.41
2.15	2.22
3.00	2.07
5.00	2.05
6.80	2.06
8.20	2.07

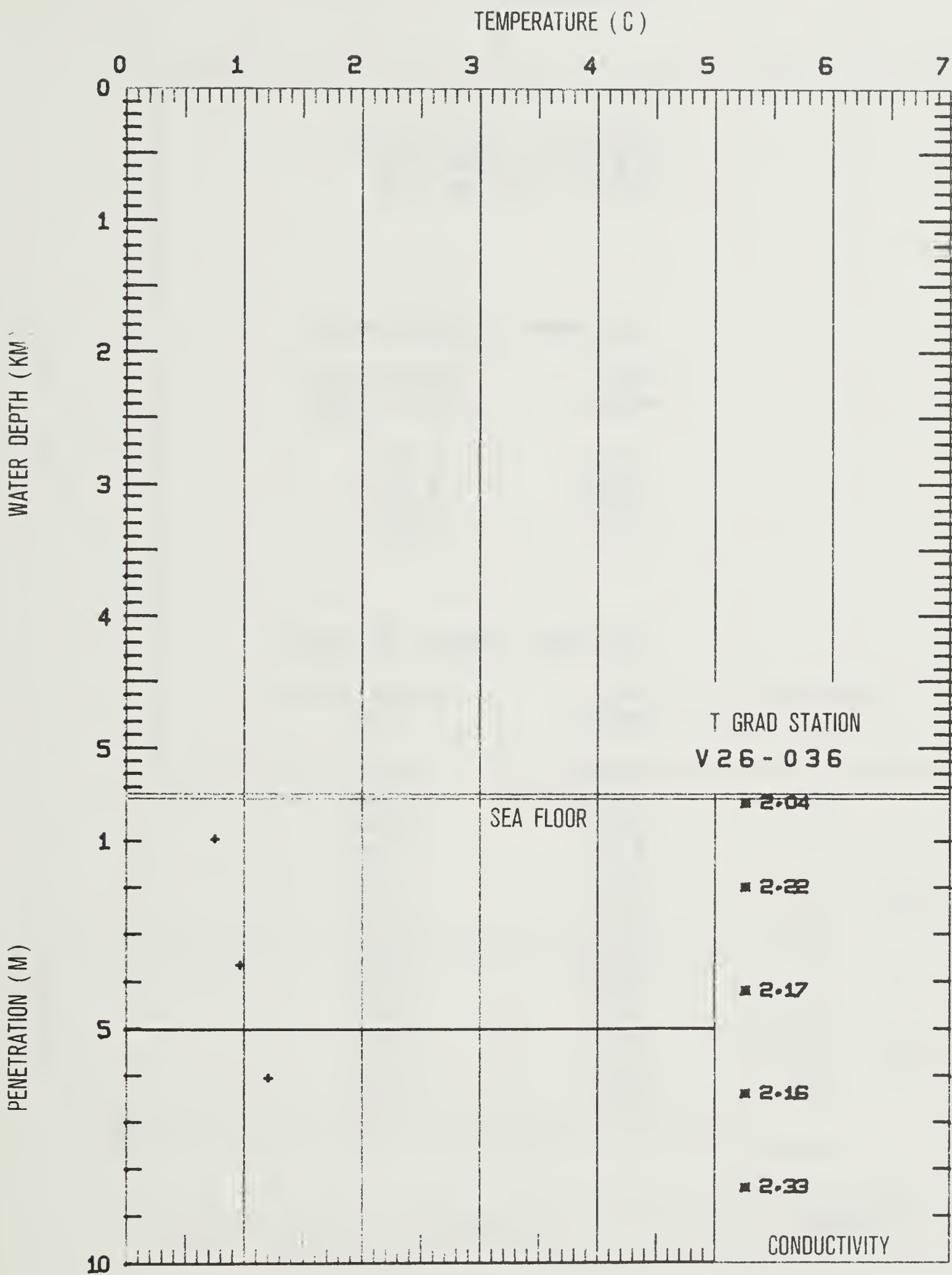
TGRAD STATION V26-036
023 38 S 026 09 W
CRUISE STATION 093

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.95	0.770
3.63	0.987
6.04	1.223

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.04
2.00	2.22
4.20	2.17
6.40	2.16
8.40	2.33



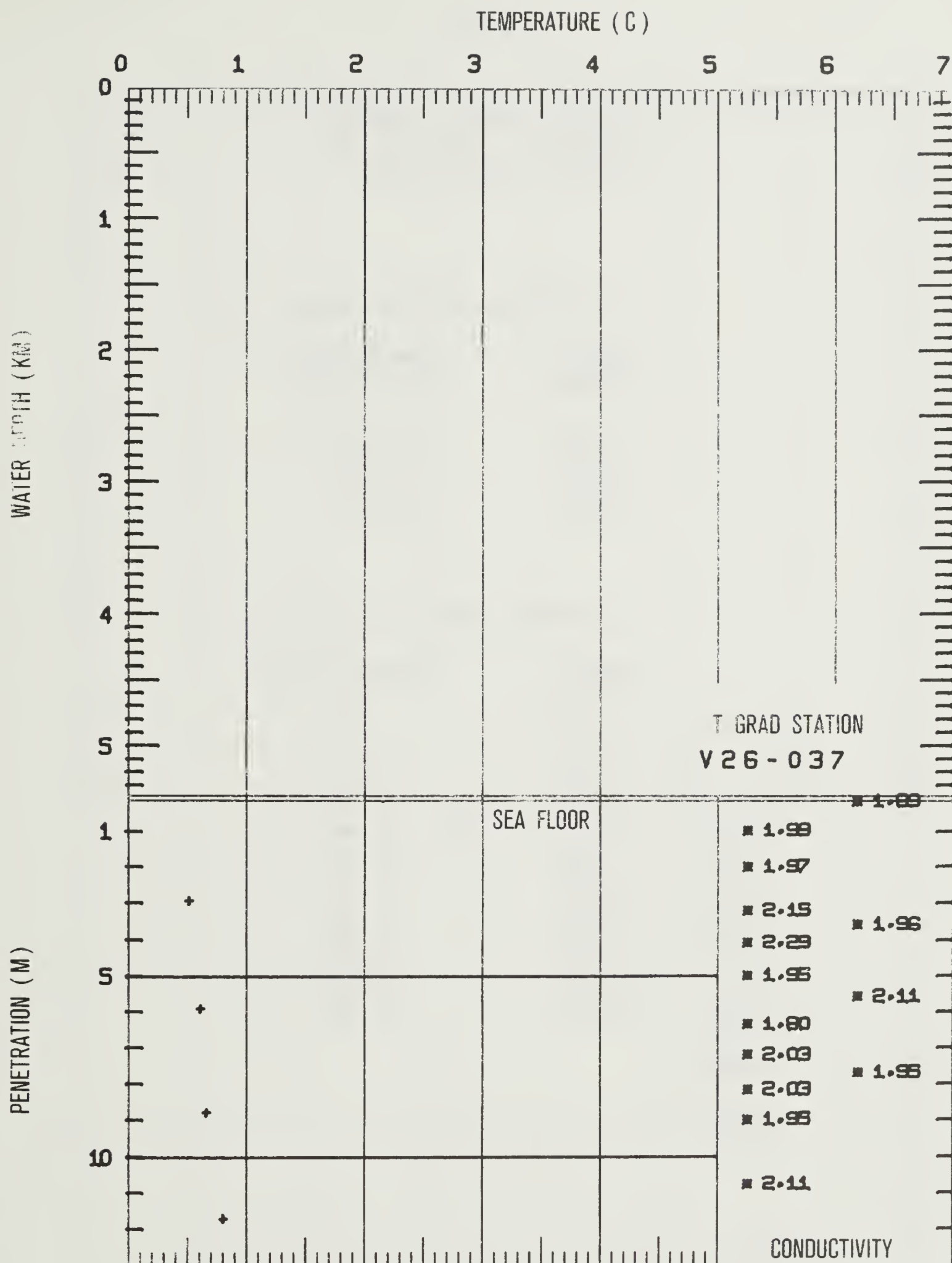
TGRAD STATION V26-037
021 06 S 027 37 W
CRUISE STATION 094

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.92	0.543
5.92	0.639
8.77	0.685
11.71	0.827

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.89
1.00	1.99
2.00	1.97
3.20	2.15
3.60	1.96
4.10	2.29
5.00	1.95
5.60	2.11
6.35	1.80
7.20	2.03
7.70	1.95
8.15	2.03
9.00	1.95
10.76	2.11



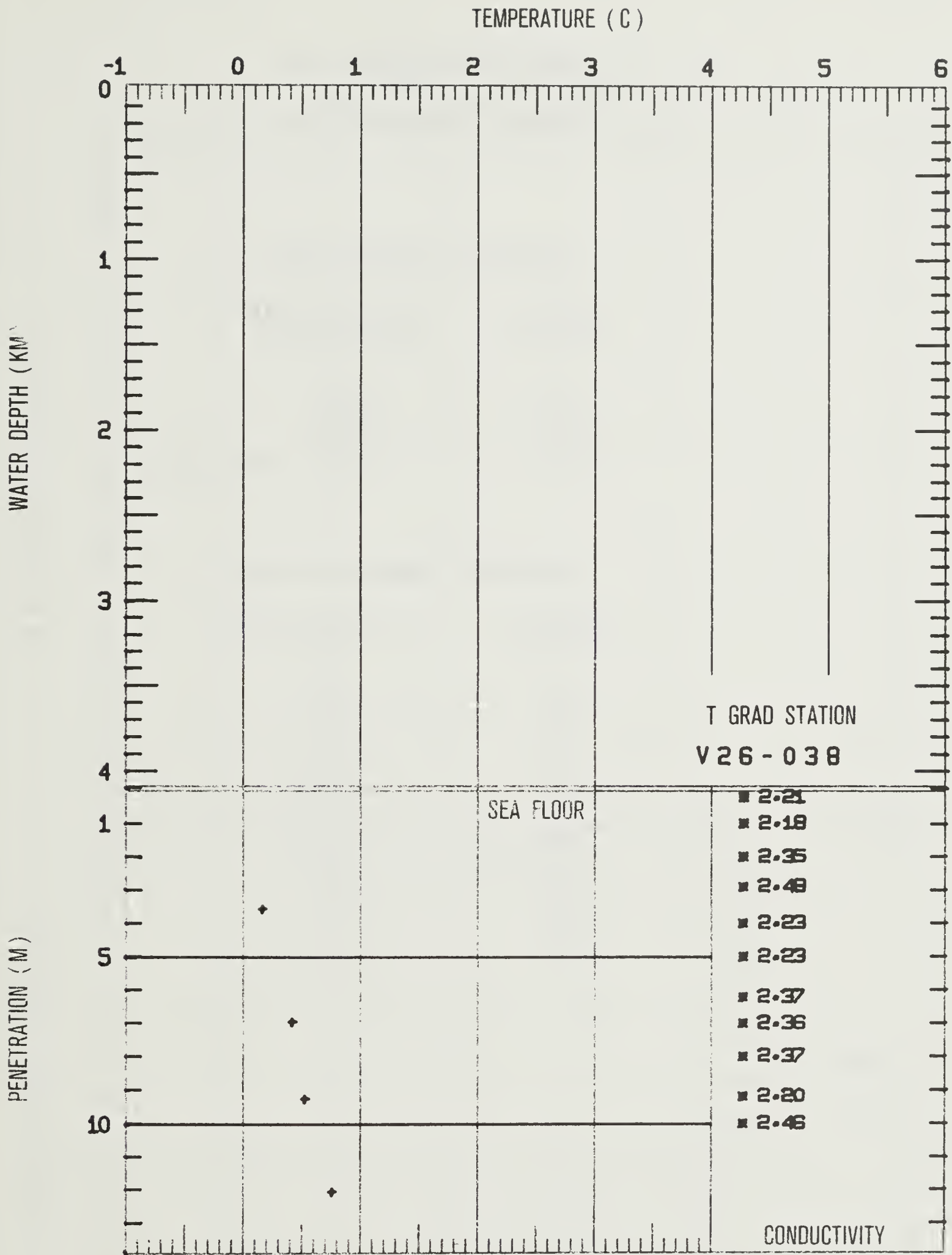
TGRAD STATION V26-038
019 34 S 032 21 W
CRUISE STATION 096

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.58	0.175
6.95	0.425
9.27	0.535
12.04	0.765

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.21
1.00	2.18
2.00	2.35
2.90	2.48
4.00	2.23
5.00	2.23
6.20	2.37
7.00	2.36
8.00	2.37
9.20	2.20
10.00	2.46



TGRAD STATION V26-039
016 07 S 033 01 W
CRUISE STATION 097

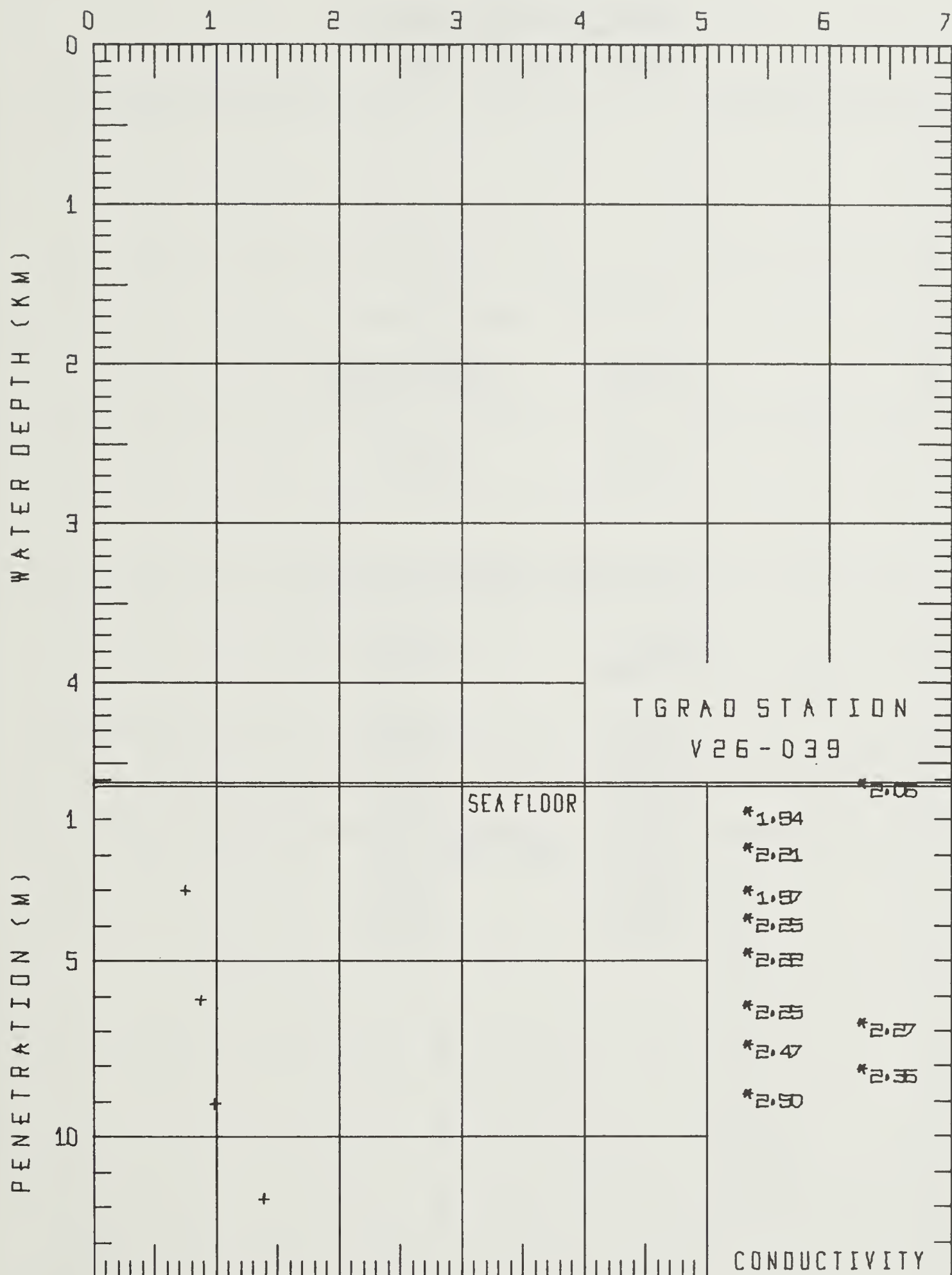
SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE	
3.00	0.733	
6.19	0.901	
9.10	0.998	
12.00	1.322	COOLING

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.06
1.00	1.94
2.00	2.21
3.20	1.97
4.00	2.25
5.00	2.22
6.50	2.25
7.00	2.27
7.60	2.47
8.30	2.36
9.00	2.50

TEMPERATURE (C)



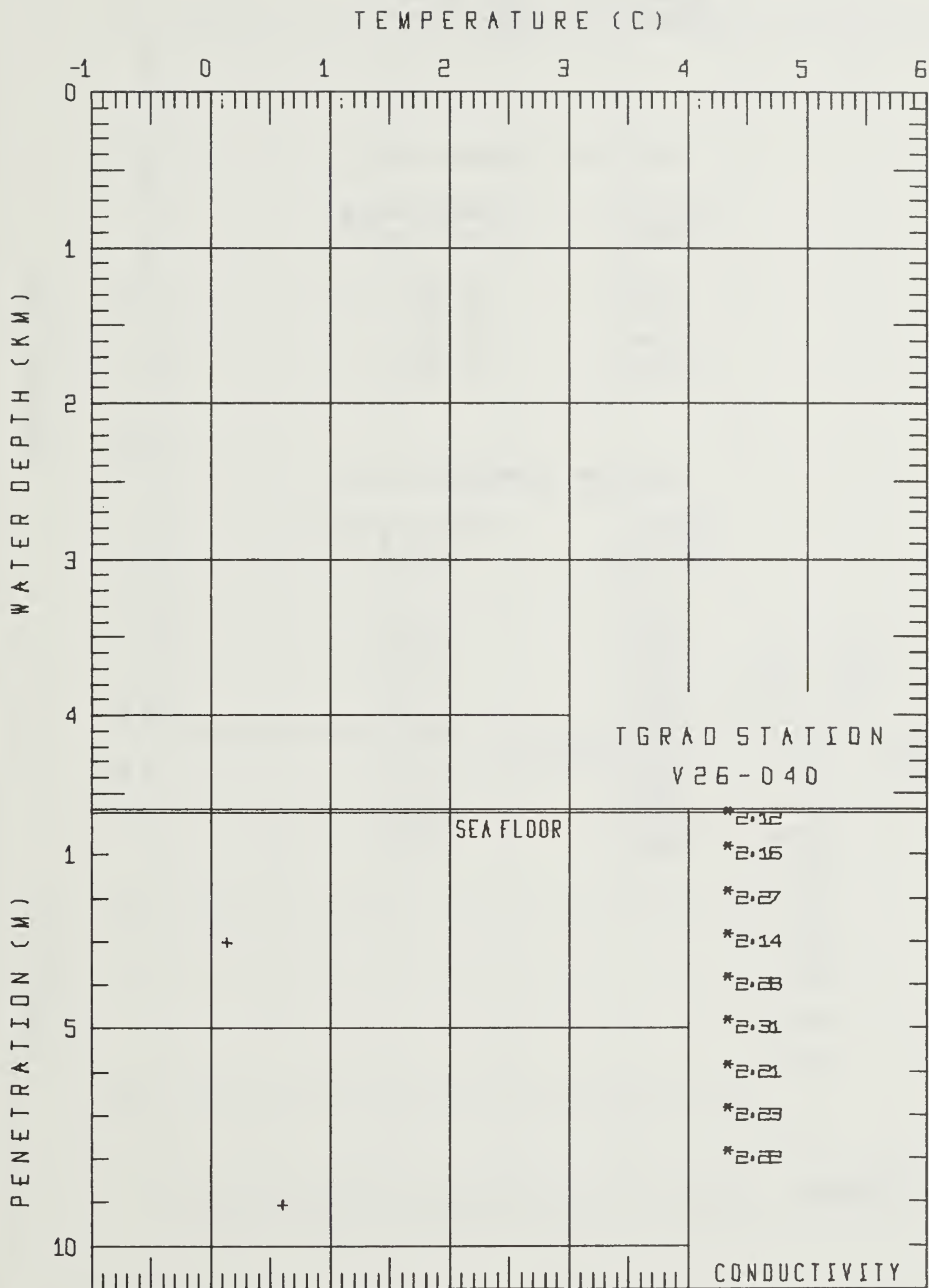
TGRAD STATION V26-040
012 29 S 032 23 W
CRUISE STATION 098

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
3.00	0.145
9.24	0.535

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.12
1.00	2.16
2.00	2.27
3.00	2.14
4.00	2.28
5.00	2.31
6.00	2.21
7.00	2.23
8.00	2.22



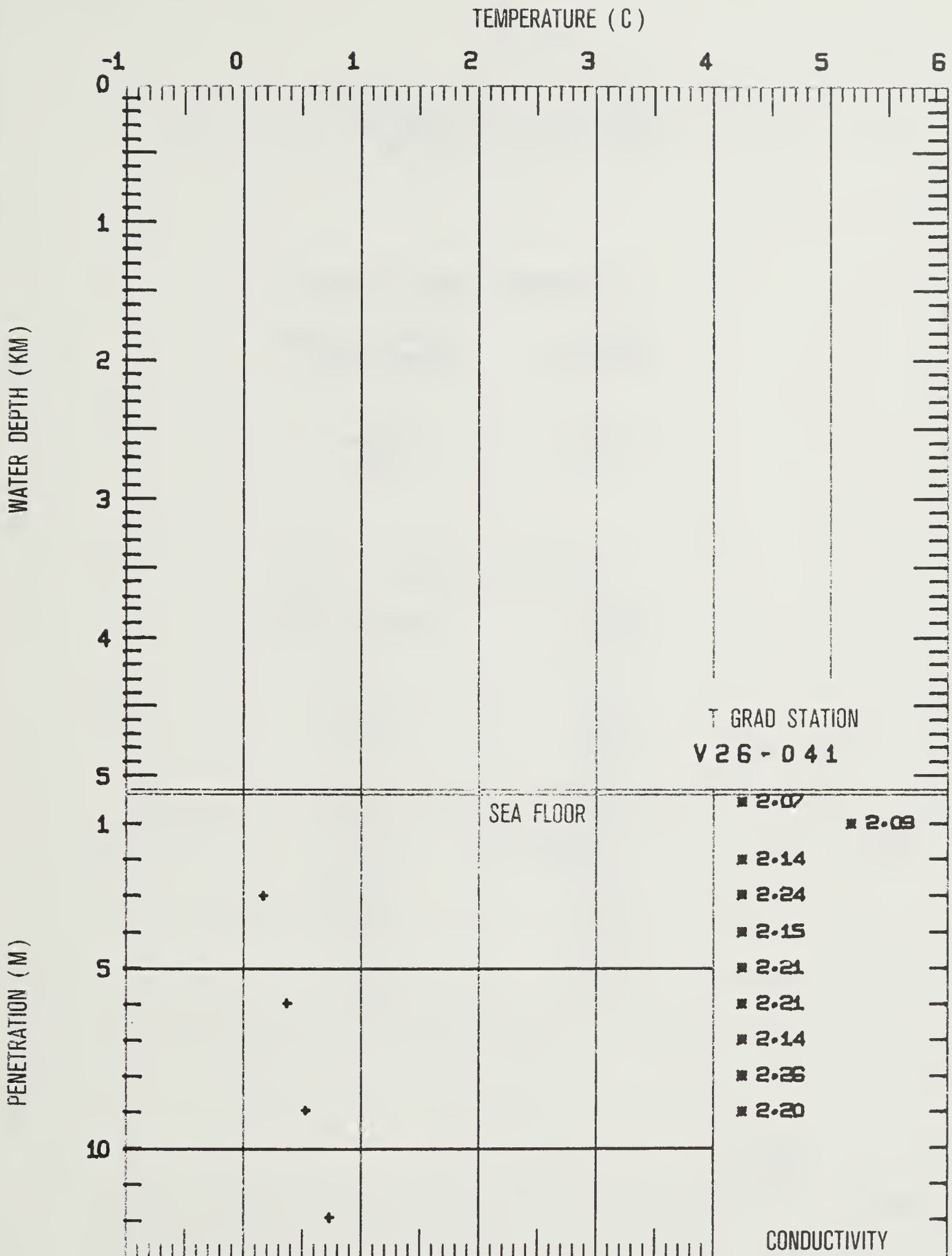
TGRAD STATION V26-041
006 09 S 031 03 W
CRUISE STATION 101

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.98	0.195
5.97	0.395
8.95	0.545
11.91	0.745

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.40	2.07
1.00	2.09
2.00	2.14
3.00	2.24
4.00	2.15
5.00	2.21
6.00	2.21
7.00	2.14
8.00	2.26
9.00	2.20



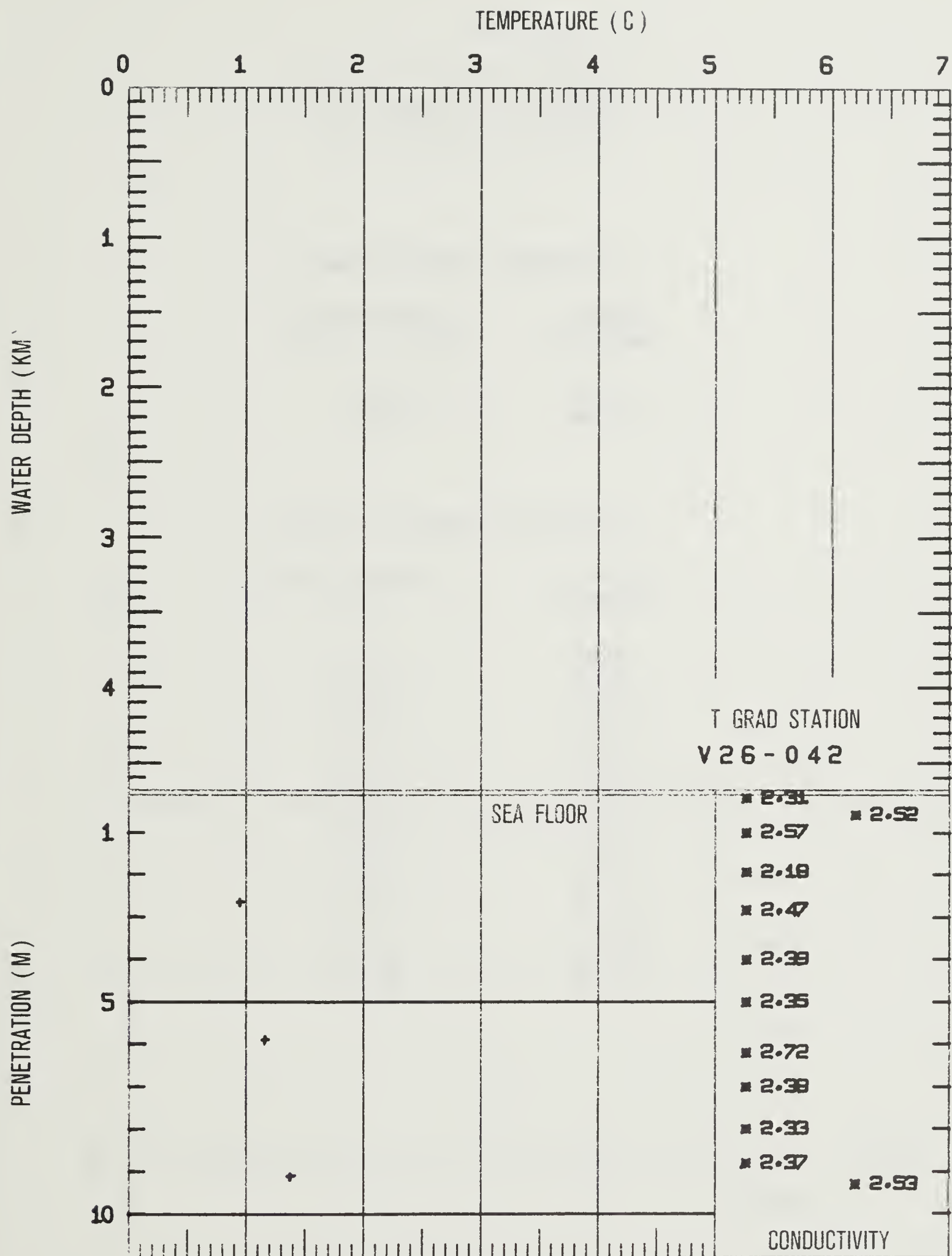
TGRAD STATION V26-042
002 11 S 031 04 W
CRUISE STATION 102

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.66	0.960
5.88	1.174
9.12	1.384

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.31
0.60	2.52
1.00	2.57
1.95	2.18
2.85	2.47
4.00	2.39
5.00	2.35
6.20	2.72
7.00	2.38
8.00	2.33
8.80	2.37
9.30	2.53



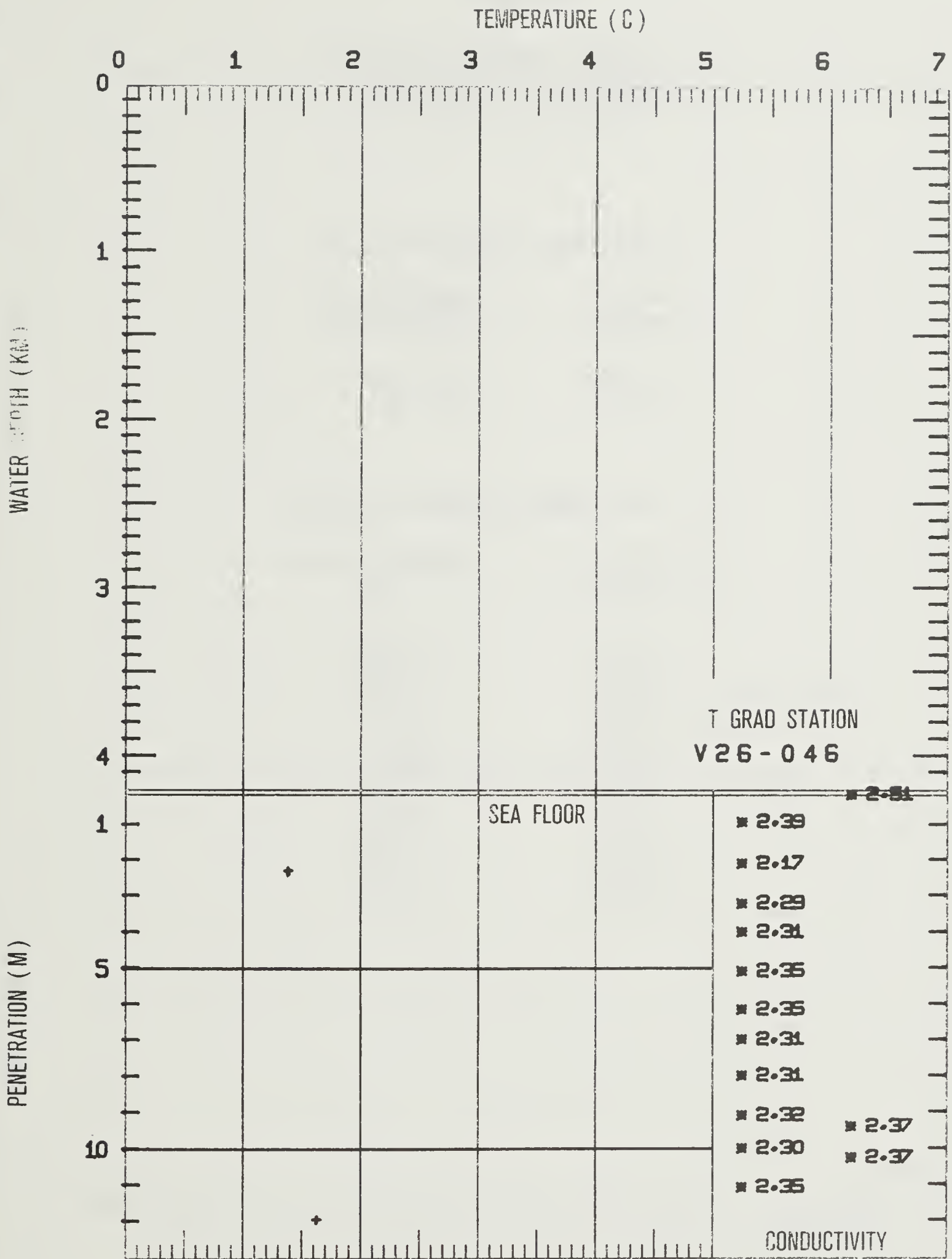
TGRAD STATION V26-046
000 23 S 039 08 W
CRUISE STATION 106

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.32	1.414
11.98	1.654

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.51
0.95	2.39
2.10	2.17
3.20	2.29
4.00	2.31
5.10	2.35
6.15	2.35
7.00	2.31
8.00	2.31
9.10	2.32
9.40	2.37
10.00	2.30
10.28	2.37
11.10	2.35



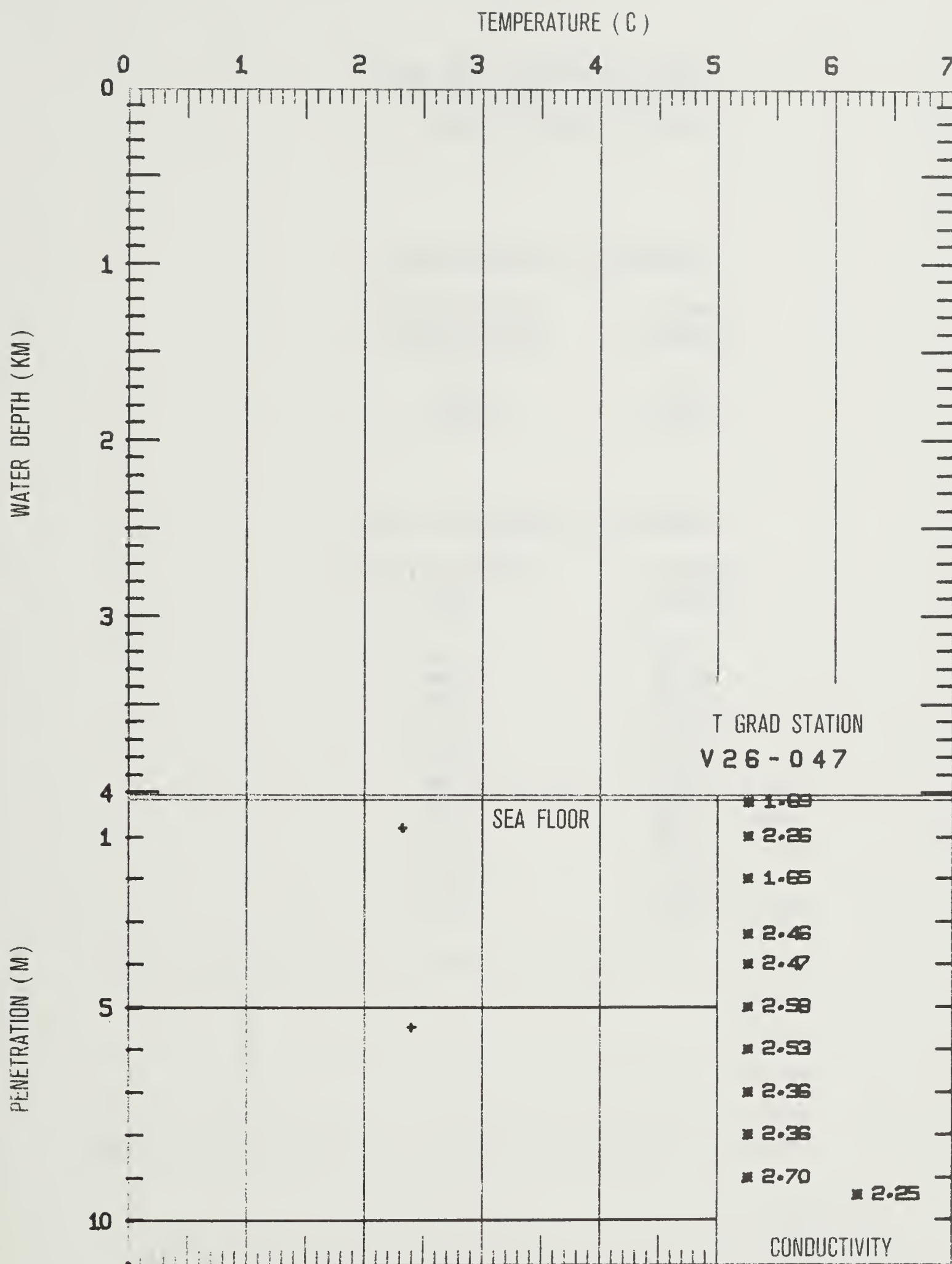
TGRAD STATION V26-047
000 29 S 039 32 W
CRUISE STATION 107

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.81	2.338
5.48	2.420

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.69
1.00	2.26
2.00	1.65
3.30	2.46
4.00	2.47
5.00	2.58
6.00	2.53
7.00	2.36
8.00	2.36
9.00	2.70
9.40	2.25



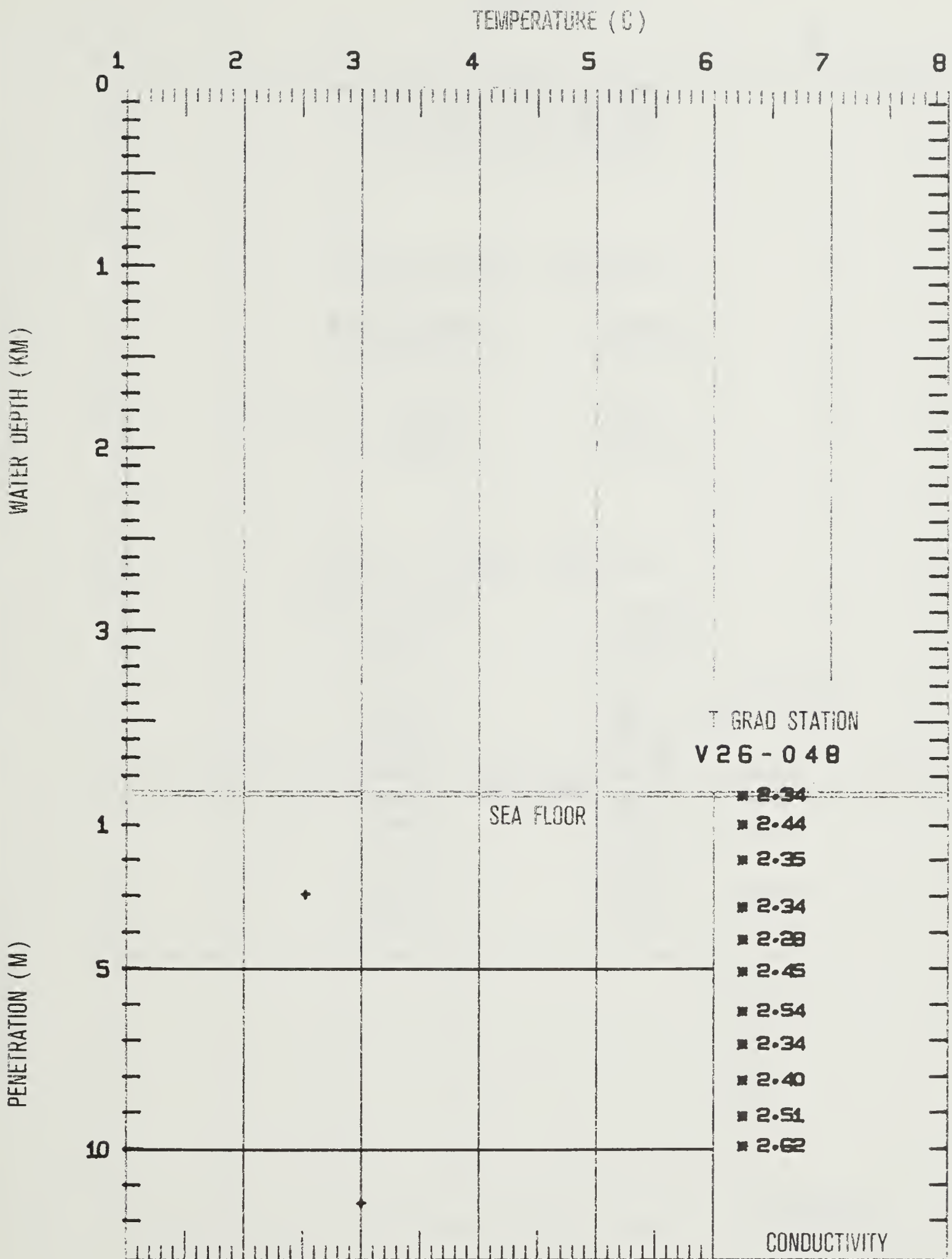
TGRAD STATION V26-048
000 05 S 041 47 W
CRUISE STATION 108

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.94	2.559
11.51	3.027

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.34
1.00	2.44
2.00	2.35
3.30	2.34
4.20	2.28
5.10	2.45
6.20	2.54
7.10	2.34
8.10	2.40
9.10	2.51
9.95	2.62



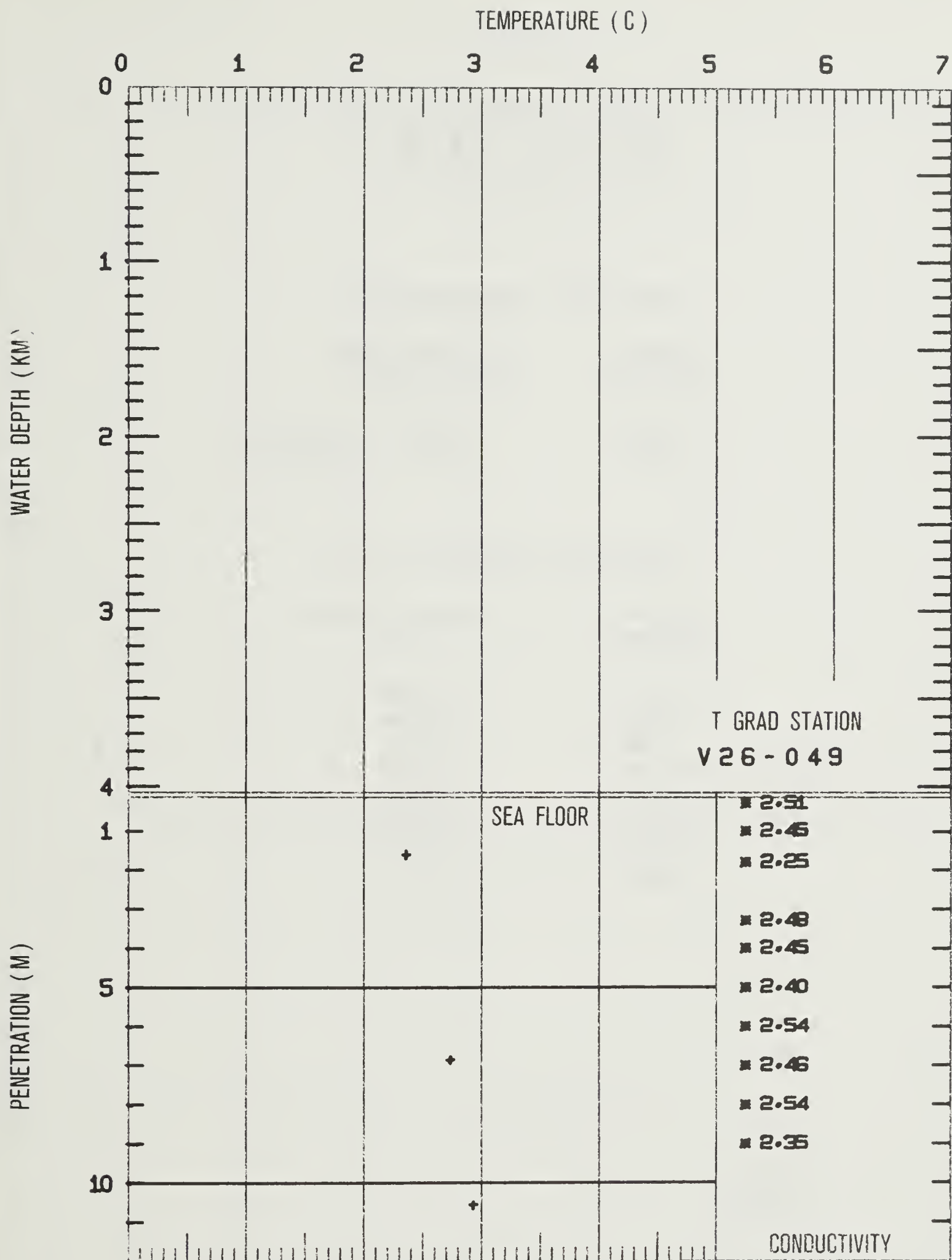
TGRAD STATION V26-049
000 48 N 043 52 W
CRUISE STATION 109

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.62	2.381
6.85	2.757
10.57	2.953

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.30	2.51
1.00	2.45
1.80	2.25
3.30	2.48
4.00	2.45
5.00	2.40
6.00	2.54
7.00	2.46
8.00	2.54
9.00	2.35



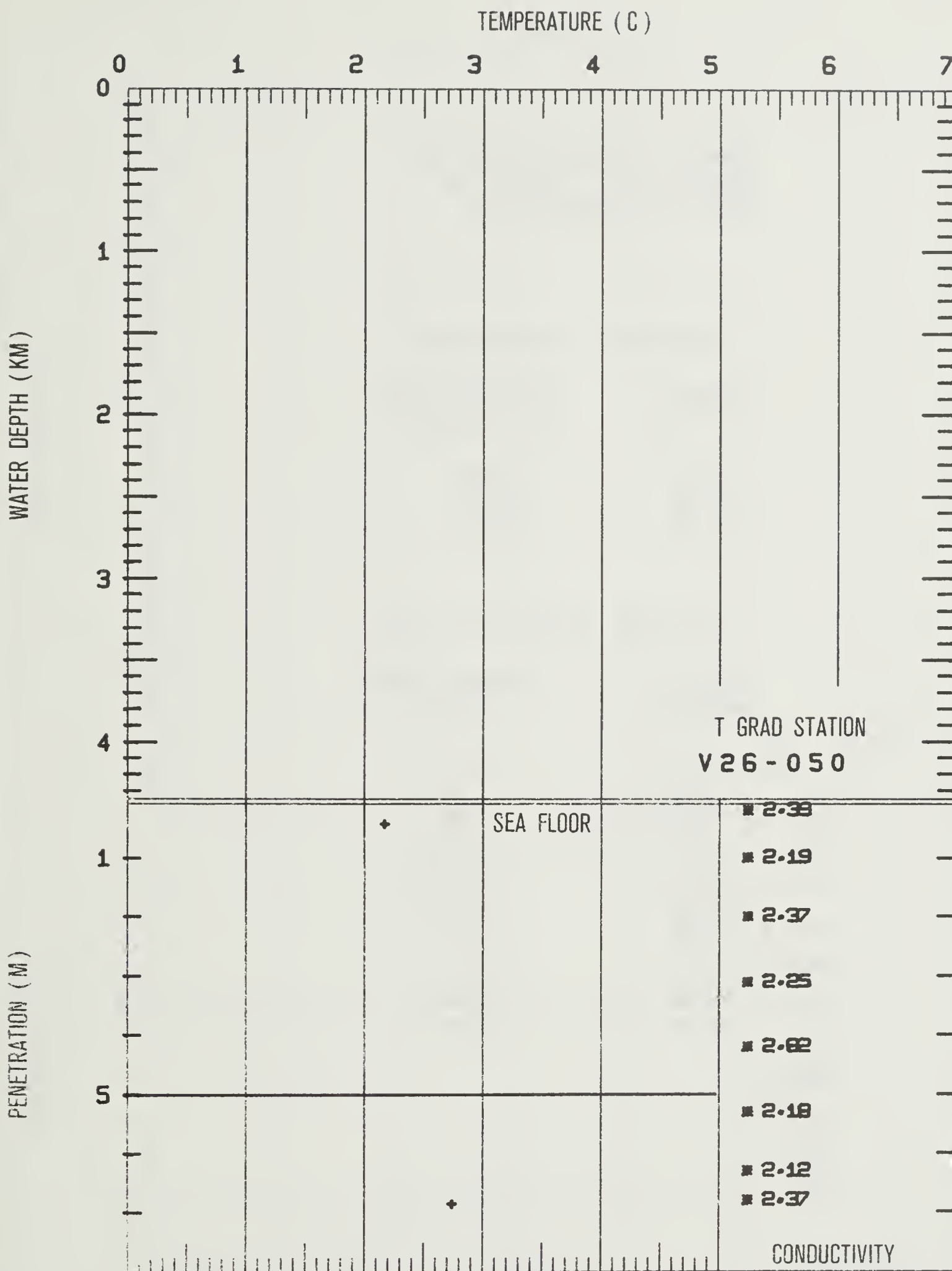
TGRAD STATION V26-050
007 28 N 046 40 W
CRUISE STATION 112

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE	
0.42	2.204	COOLING
6.85	2.771	COOLING

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.39
1.00	2.19
2.00	2.37
3.10	2.25
4.20	2.82
5.30	2.18
6.30	2.12
6.80	2.37



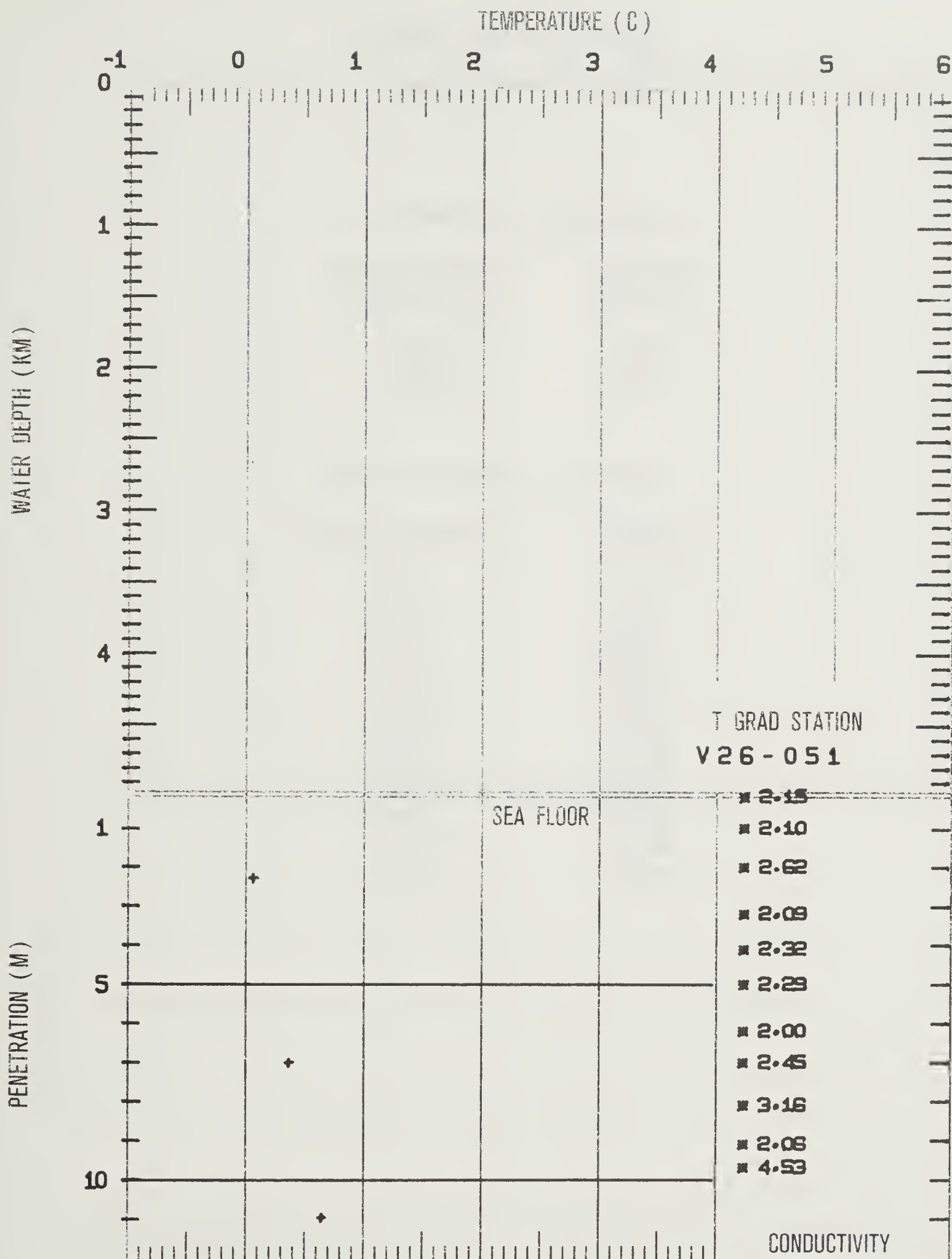
TGRAD STATION V26-051
010 39 N 050 00 W
CRUISE STATION 113

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.27	0.105
7.00	0.405
10.95	0.685

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.15
1.00	2.10
2.00	2.62
3.20	2.09
4.10	2.32
5.00	2.29
6.20	2.00
7.00	2.45
8.10	3.16
9.10	2.06
9.70	4.53



TGRAD STATION V26-052
013 02 N 052 58 W
CRUISE STATION 114

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
4.66	2.086
8.91	2.403

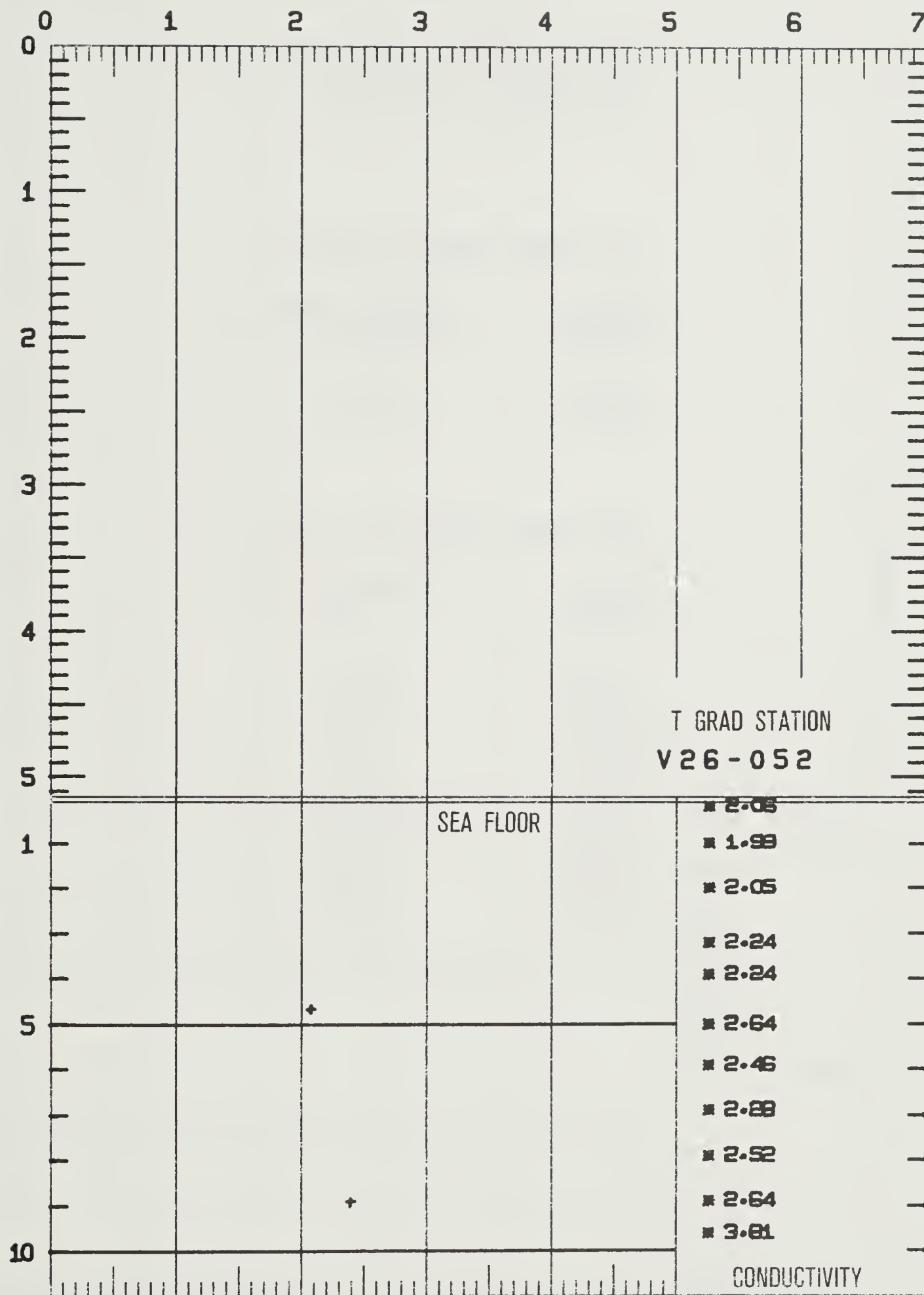
SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.06
1.00	1.99
2.00	2.05
3.20	2.24
3.90	2.24
5.00	2.64
5.90	2.46
6.90	2.28
7.90	2.52
8.90	2.64
9.60	3.81

TEMPERATURE (C)

WATER DEPTH (KM)

PENETRATION (M)



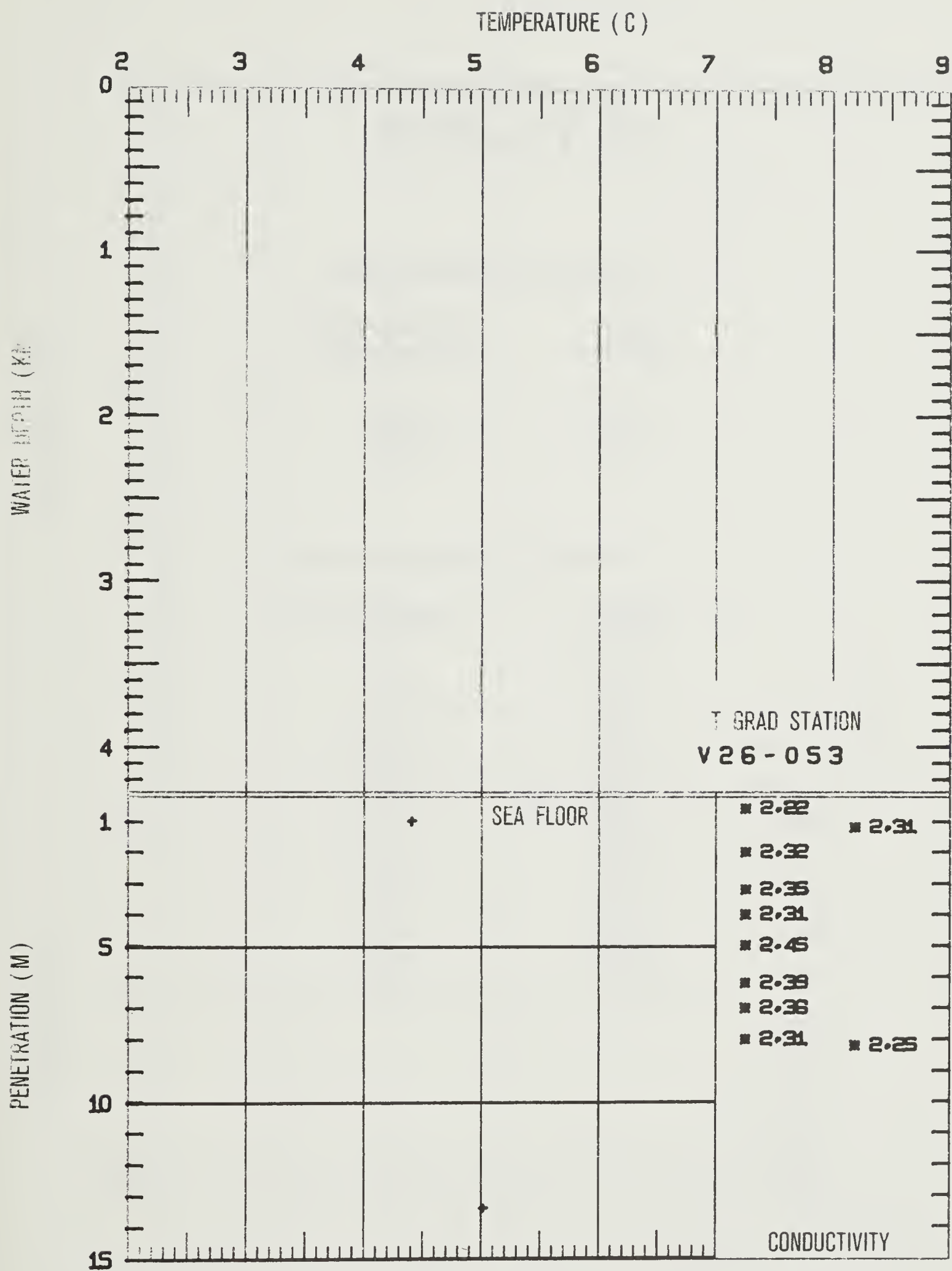
TGRAD STATION V26-053
014 46 N 069 18 W
CRUISE STATION 123

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.99	4.425
13.39	5.030

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.60	2.22
1.20	2.31
2.00	2.32
3.20	2.35
4.00	2.31
5.00	2.45
6.20	2.39
7.00	2.36
8.00	2.31
8.20	2.25



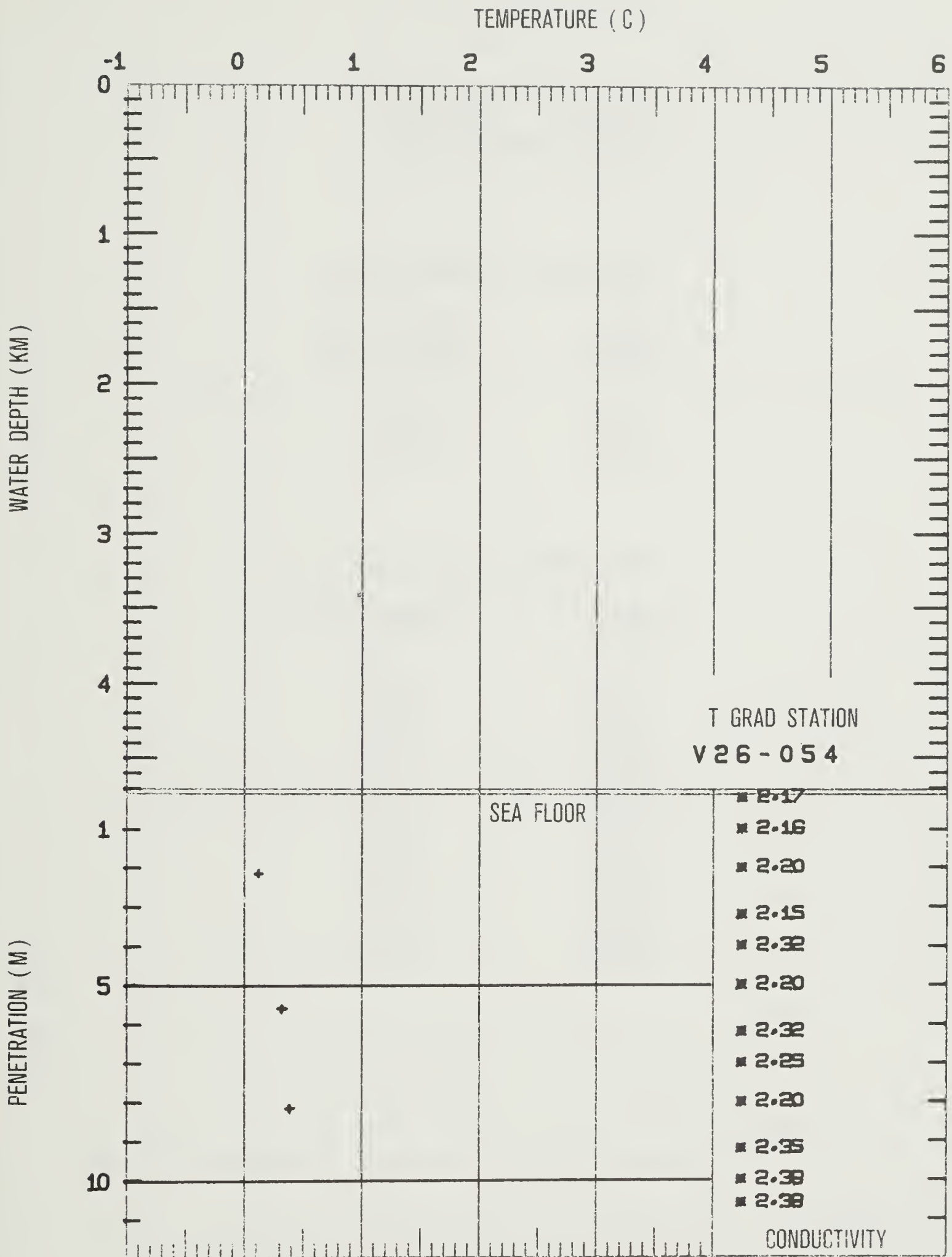
TGRAD STATION V26-054
014 27 N 068 33 W
CRUISE STATION 124

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.13	0.145
5.59	0.344
8.13	0.410

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.17
1.00	2.16
2.00	2.20
3.20	2.15
4.00	2.32
5.00	2.20
6.20	2.32
7.00	2.25
8.00	2.20
9.20	2.35
10.00	2.38
10.60	2.38



TGRAD STATION V26-055
014 26 N 068 46 W
CRUISE STATION 125

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.00	4.514
4.58	4.719
10.64	5.065

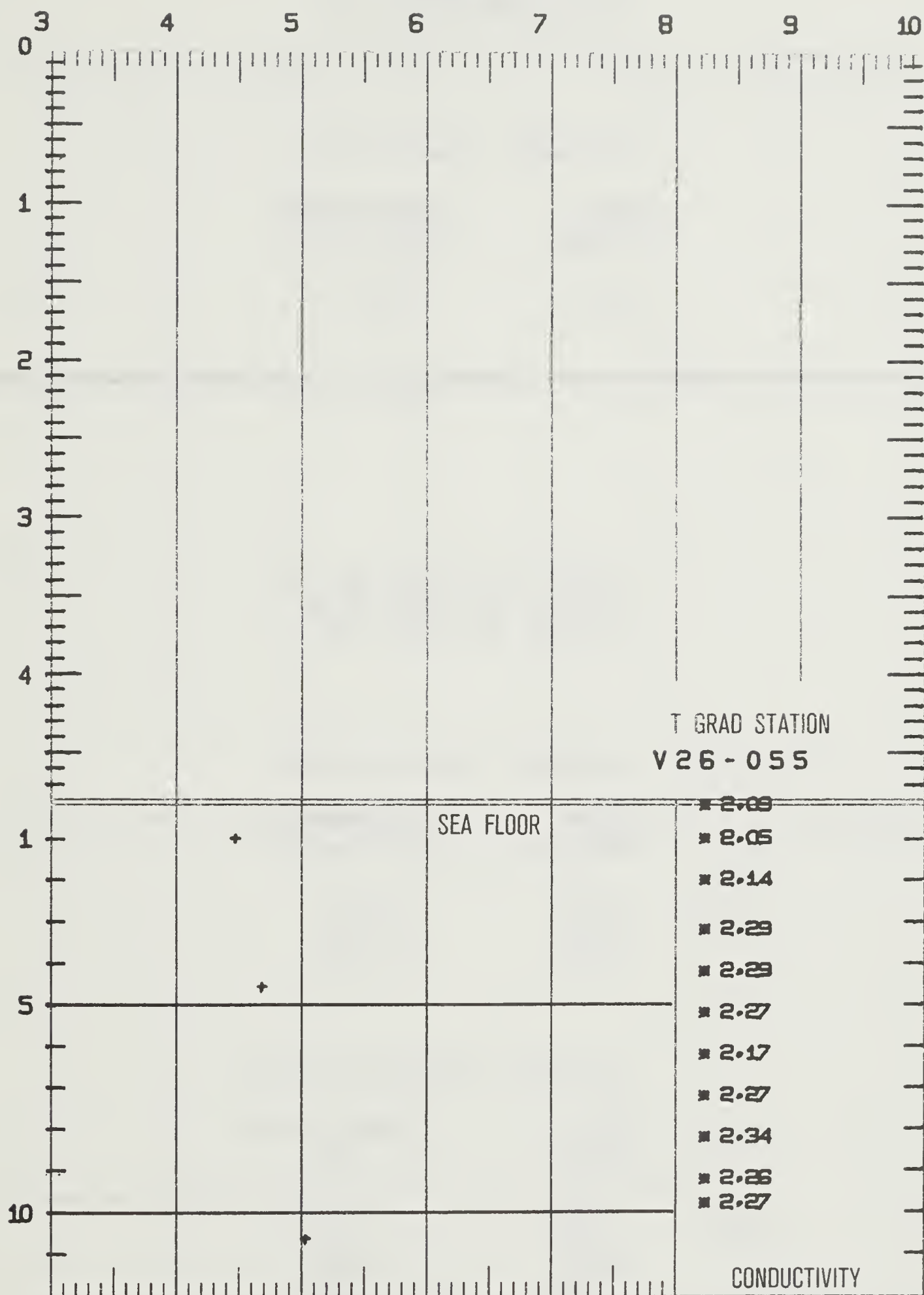
SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.09
1.00	2.05
2.00	2.14
3.20	2.29
4.20	2.29
5.20	2.27
6.20	2.17
7.20	2.27
8.20	2.34
9.20	2.26
9.80	2.27

TEMPERATURE (C)

WATER DEPTH (KM)

PENETRATION (M)



TGRAD STATION V26-056
014 38 N 070 51 W
CRUISE STATION 126

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.45	4.479

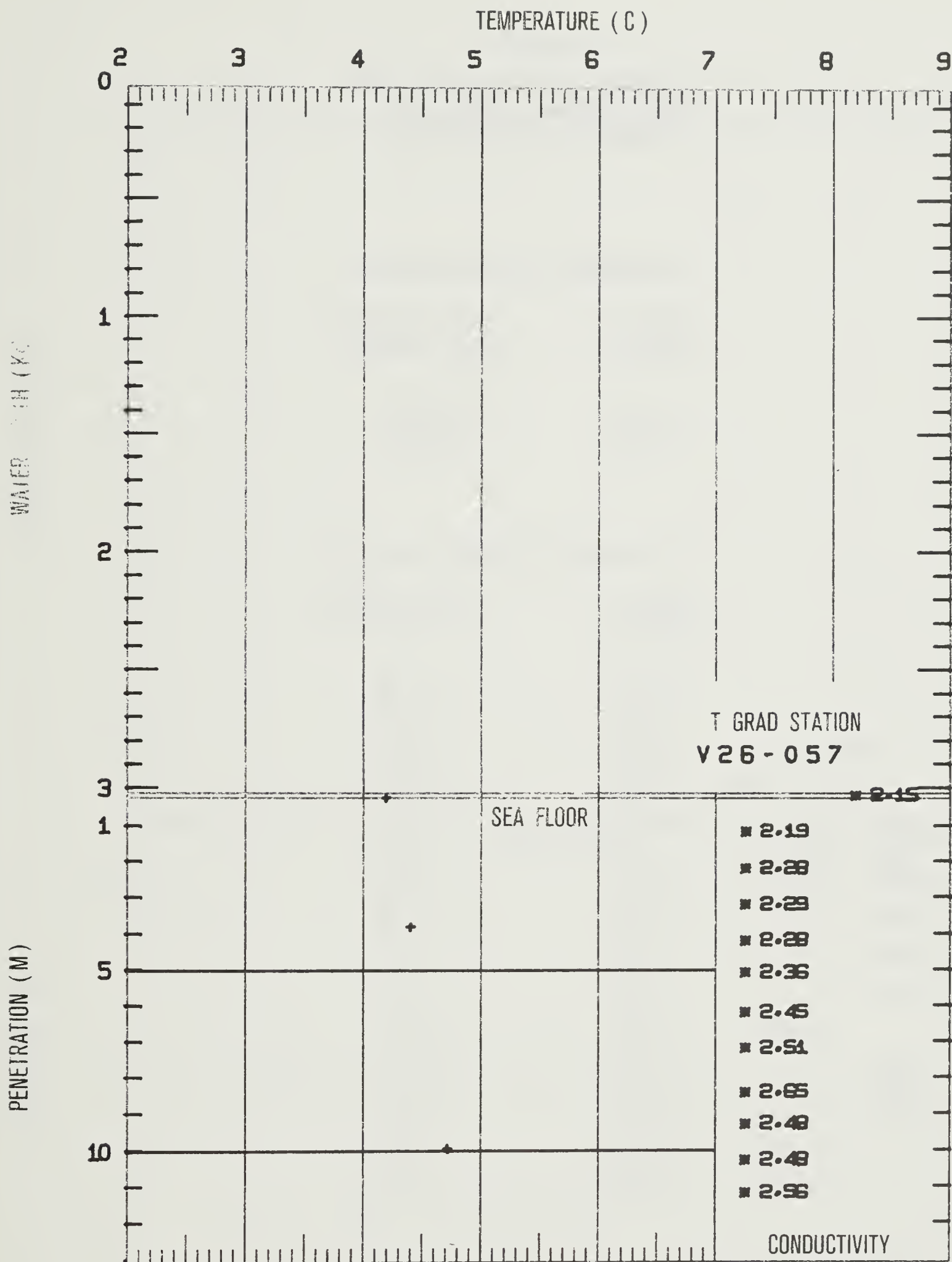
TGRAD STATION V26-057
016 08 N 074 27 W
CRUISE STATION 128

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.25	4.213
3.84	4.415
9.96	4.729

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.15
1.20	2.19
2.20	2.28
3.20	2.29
4.20	2.28
5.10	2.36
6.20	2.45
7.20	2.51
8.40	2.65
9.30	2.48
10.30	2.48
11.20	2.56



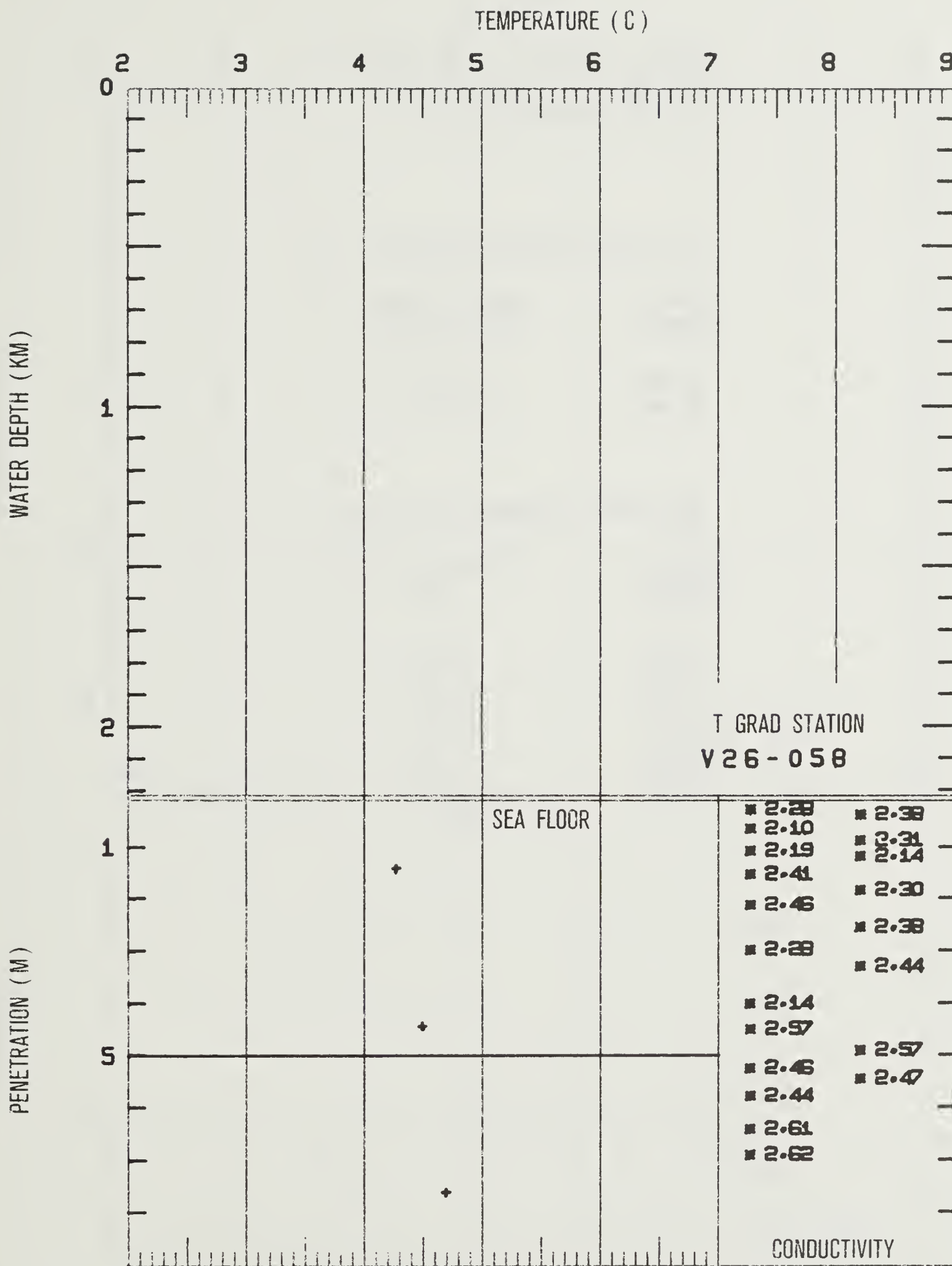
TGRAD STATION V26-058
017 02 N 071 14 W
CRUISE STATION 129

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.43	4.265
4.44	4.486
7.62	4.681

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.30	2.28
0.40	2.38
0.67	2.10
0.90	2.31
1.09	2.19
1.20	2.14
1.55	2.41
1.85	2.30
2.13	2.46
2.55	2.38
2.98	2.28
3.30	2.44
4.00	2.14
4.50	2.57
4.90	2.57
5.25	2.46
5.45	2.47
5.77	2.44
6.40	2.61
6.90	2.62



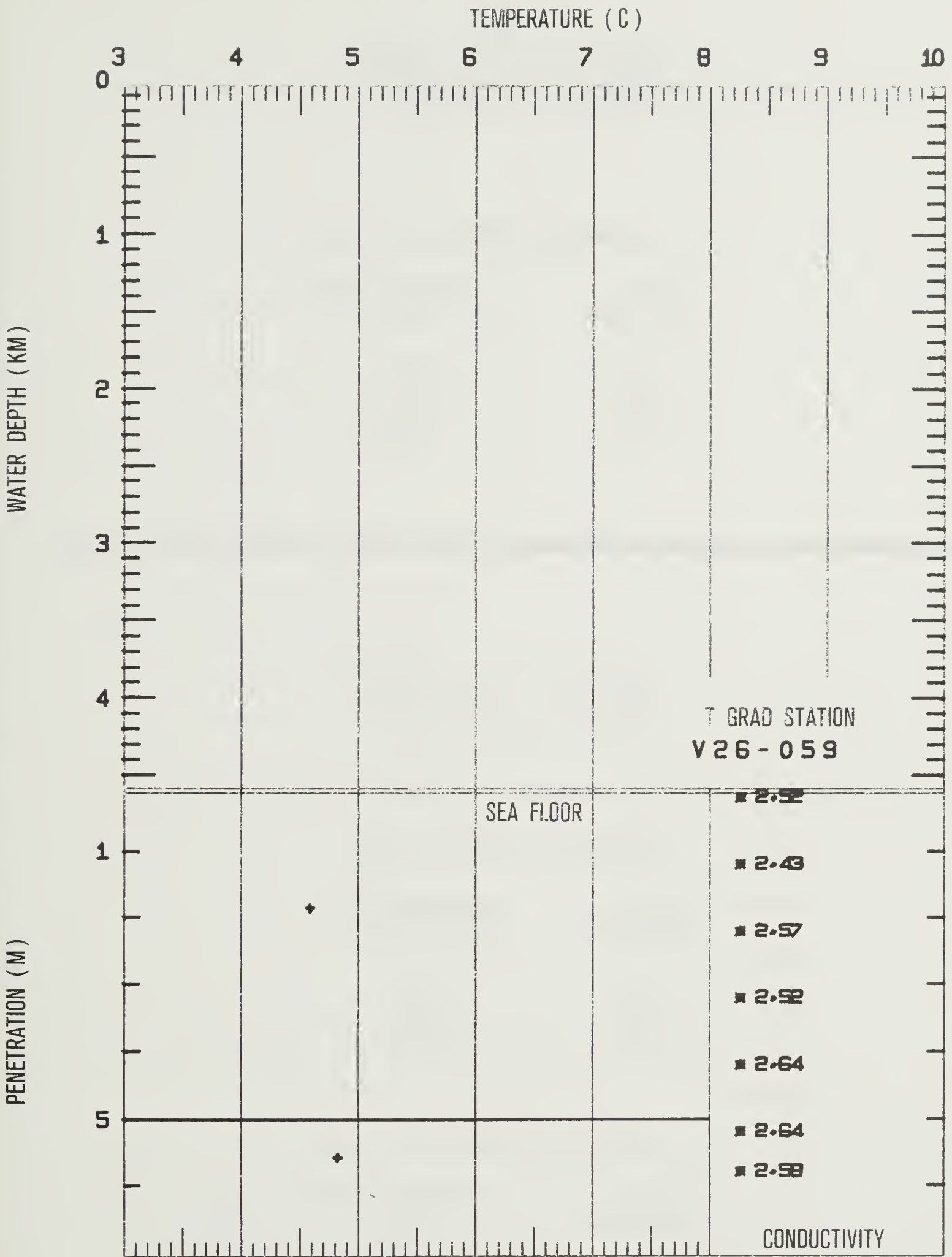
TGRAD STATION V26-059
018 33 N 079 27 W
CRUISE STATION 130

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.86	4.592
5.58	4.825

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.52
1.20	2.43
2.20	2.57
3.20	2.52
4.20	2.64
5.20	2.64
5.80	2.58



TGRAD STATION V26-060
 019 00 N 081 02 W
 CRUISE STATION 131

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.50
1.20	2.39
3.80	2.39
5.20	2.39

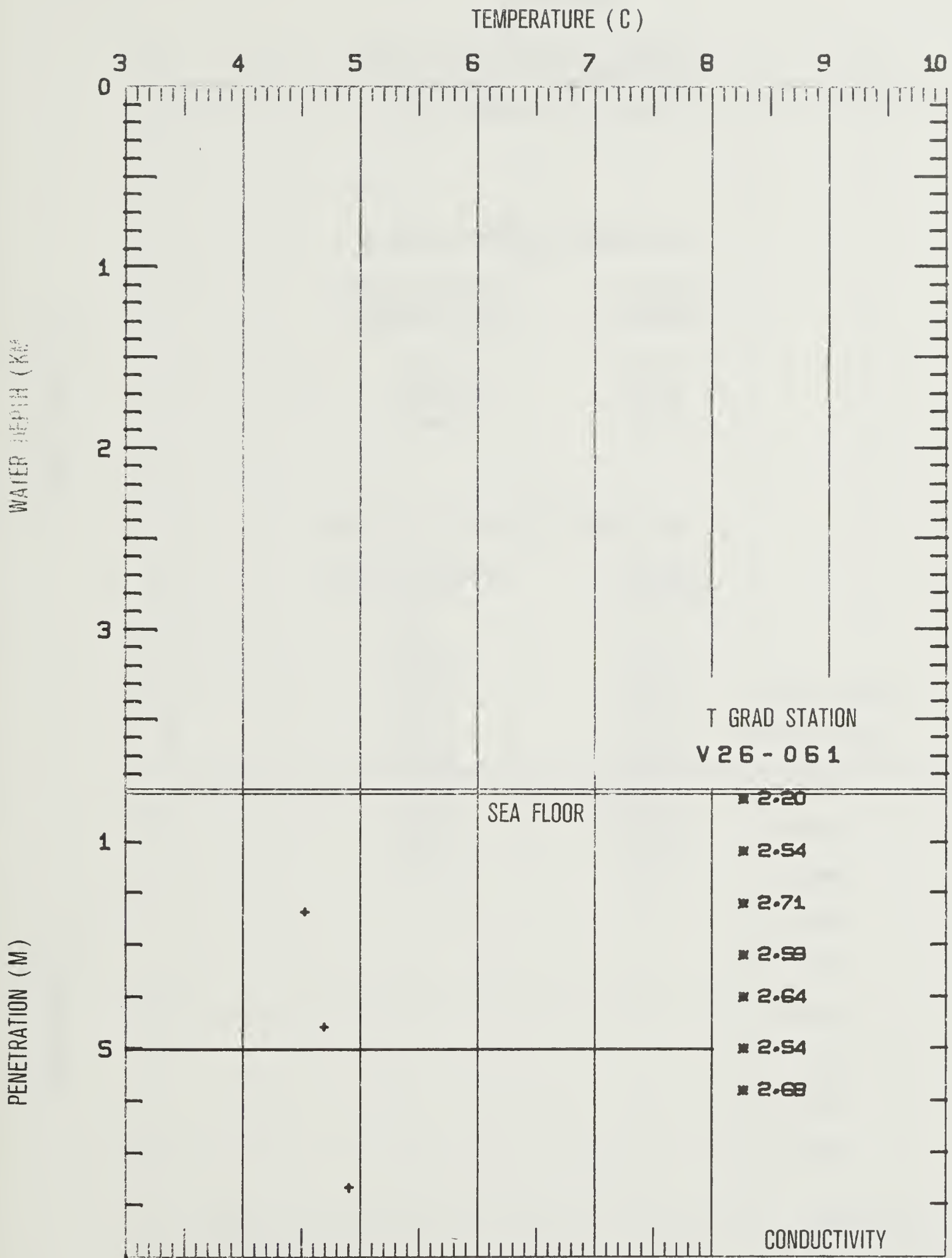
TGRAD STATION V26-061
 020 27 N 083 22 W
 CRUISE STATION 132

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.36	4.526
4.57	4.685
7.67	4.894

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.20
1.20	2.54
2.20	2.71
3.20	2.59
4.00	2.64
5.00	2.54
5.80	2.68



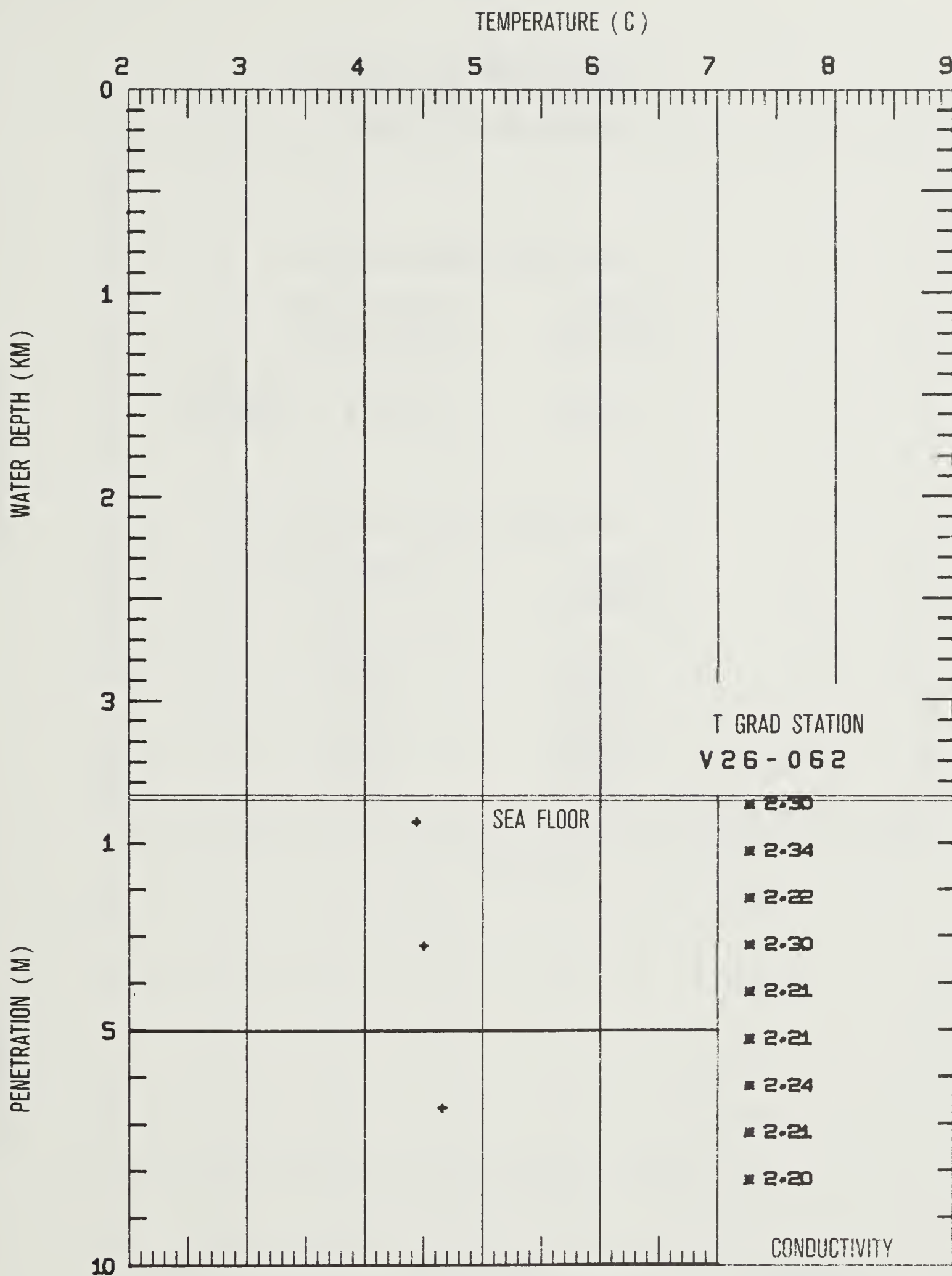
TGRAD STATION V26-062
023 53 N 085 52 W
CRUISE STATION 134

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.56	4.453
3.21	4.514
6.66	4.666

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.30
1.20	2.34
2.20	2.22
3.20	2.30
4.20	2.21
5.20	2.21
6.20	2.24
7.20	2.21
8.20	2.20



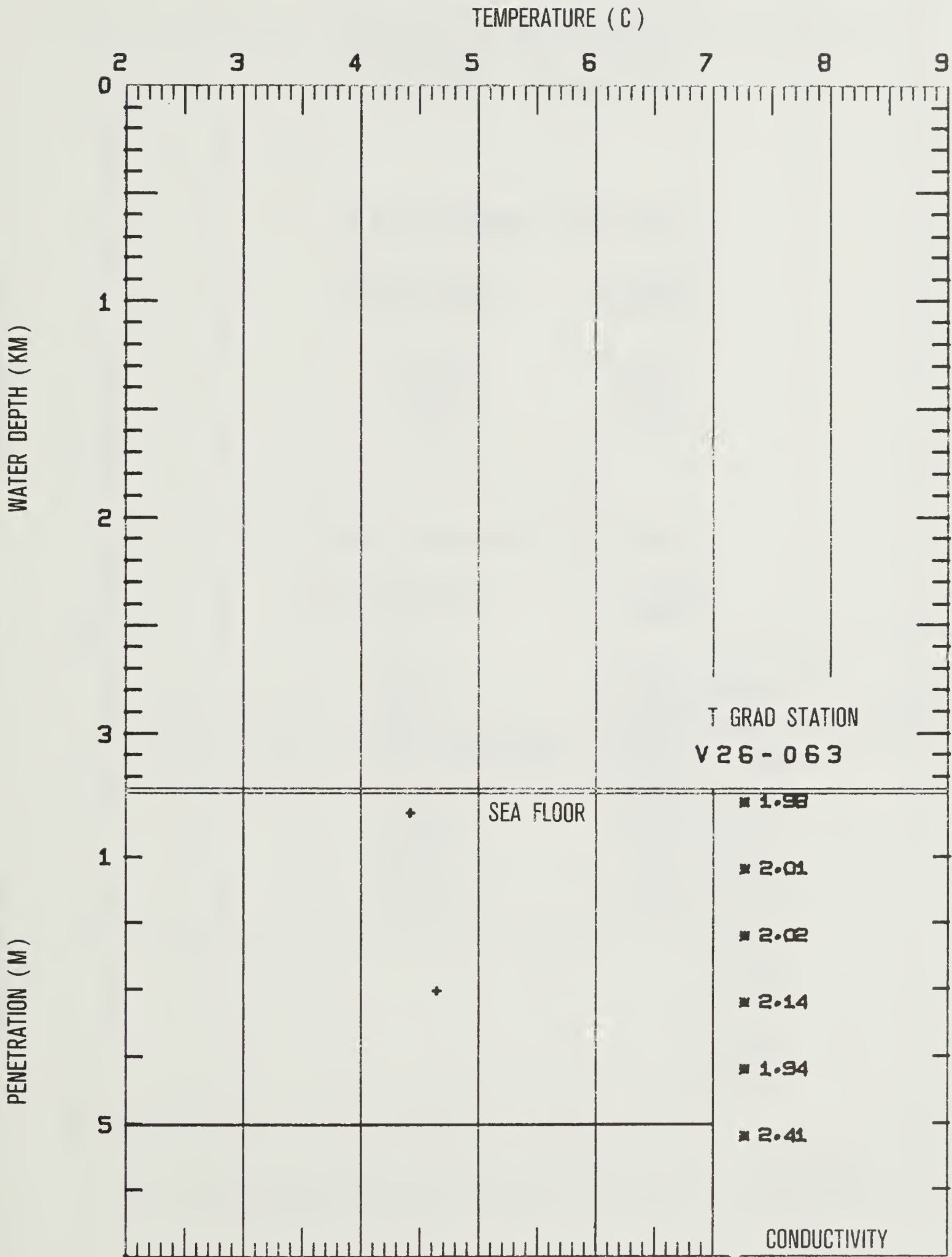
TGRAD STATION V26-063
025 24 N 086 22 W
CRUISE STATION 135

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE	
0.36	4.437	COOLING
3.02	4.658	COOLING

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.98
1.20	2.01
2.20	2.02
3.20	2.14
4.20	1.94
5.20	2.41



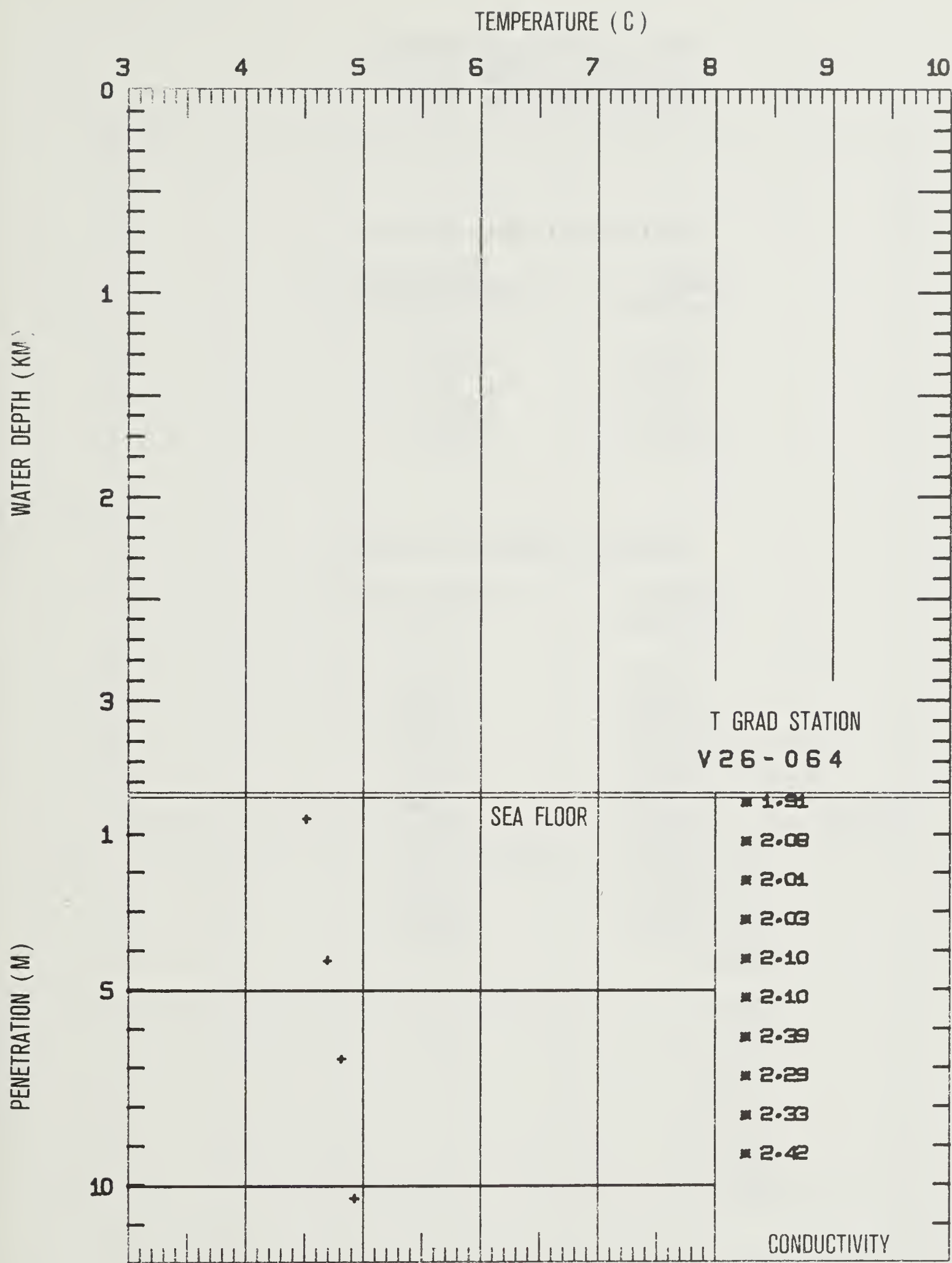
TGRAD STATION V26-064
024 59 N 088 57 W
CRUISE STATION 136

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.61	4.519
4.23	4.696
6.76	4.819
10.31	4.930

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.91
1.20	2.08
2.20	2.01
3.20	2.03
4.20	2.10
5.20	2.10
6.20	2.39
7.20	2.29
8.20	2.33
9.20	2.42



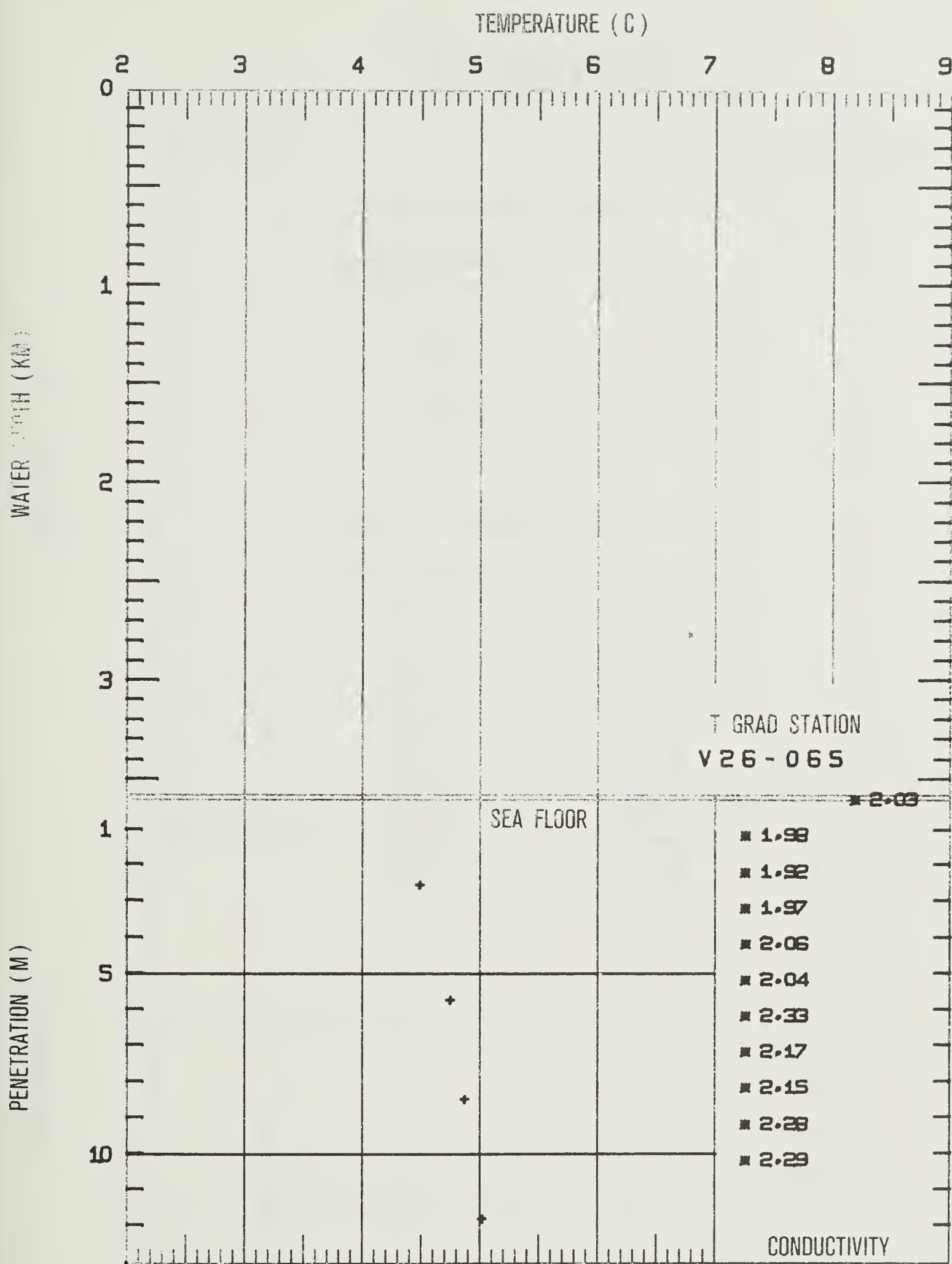
TGRAD STATION V26-065
022 59 N 092 02 W
CRUISE STATION 137

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.56	4.494
5.77	4.747
8.51	4.864
11.84	5.012

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.03
1.20	1.98
2.20	1.92
3.20	1.97
4.20	2.06
5.20	2.04
6.20	2.33
7.20	2.17
8.20	2.15
9.20	2.28
10.20	2.29



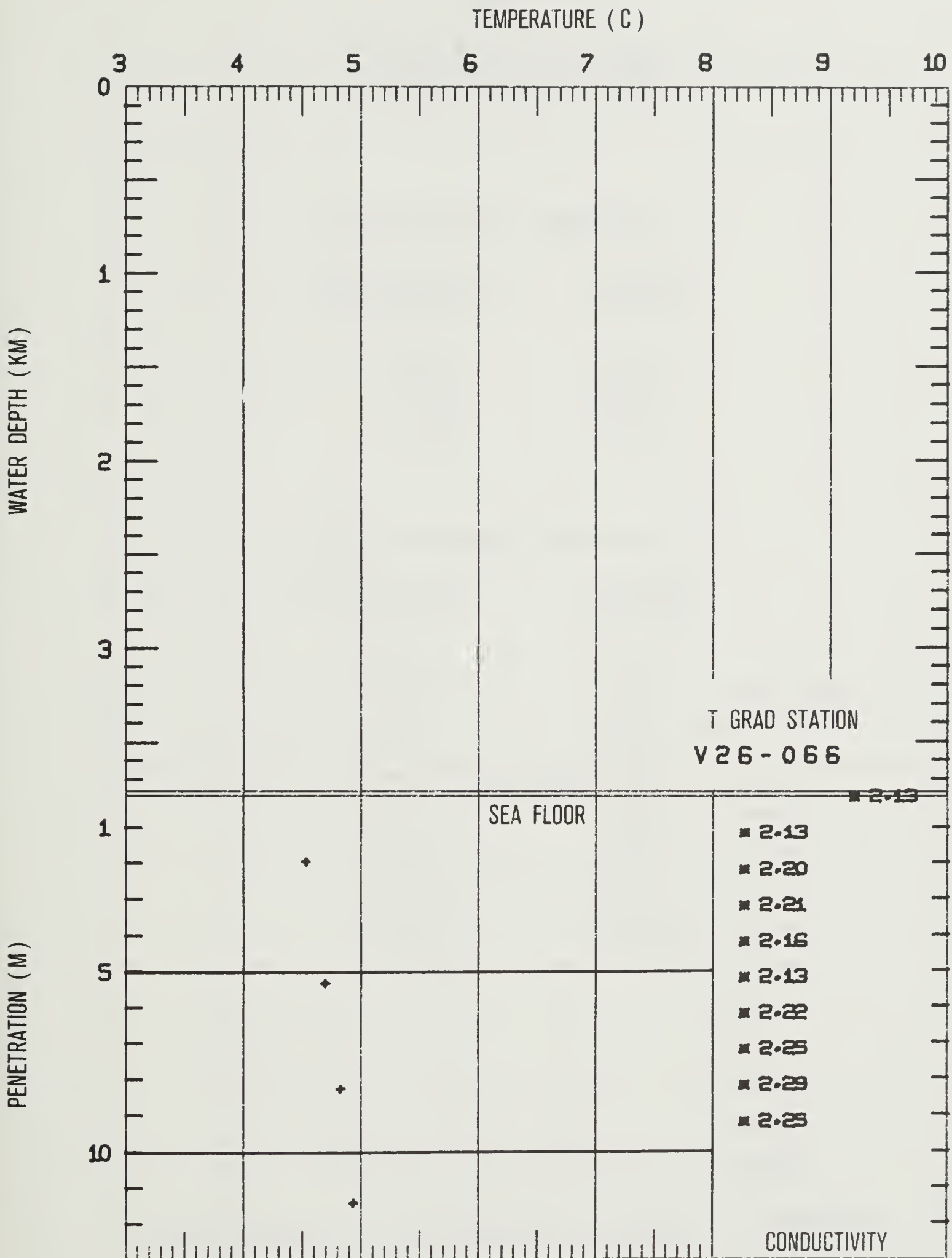
TGRAD STATION V26-066
023 02 N 092 03 W
CRUISE STATION 138

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.96	4.543
5.33	4.710
8.26	4.840
11.41	4.943

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.13
1.20	2.13
2.20	2.20
3.20	2.21
4.20	2.16
5.20	2.13
6.20	2.22
7.20	2.25
8.20	2.29
9.20	2.25



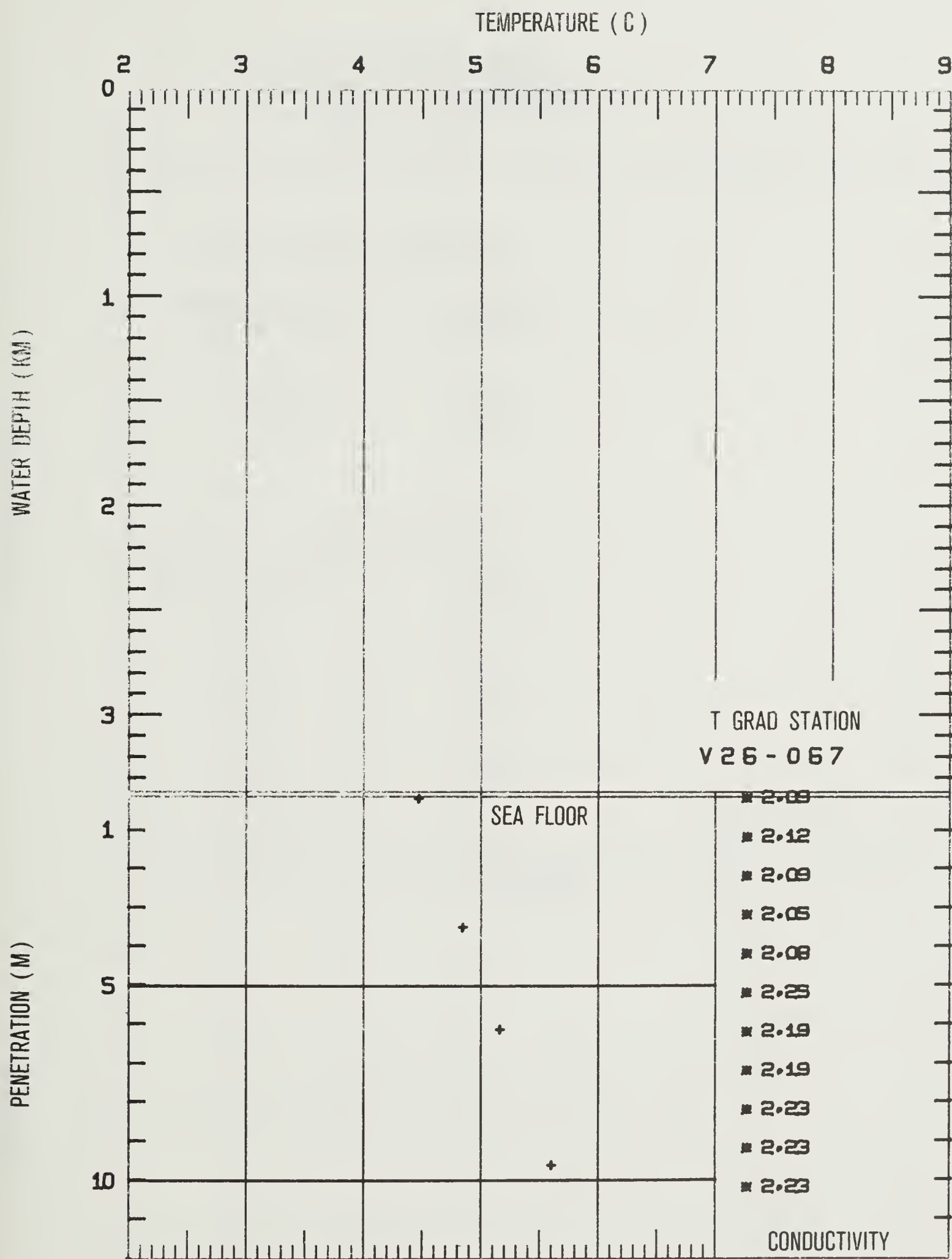
TGRAD STATION V26-067
023 29 N 092 35 W
CRUISE STATION 139

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.22	4.484
3.51	4.857
6.13	5.170
9.61	5.604

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.09
1.20	2.12
2.20	2.09
3.20	2.05
4.20	2.08
5.20	2.25
6.20	2.19
7.20	2.19
8.20	2.23
9.20	2.23
10.20	2.23



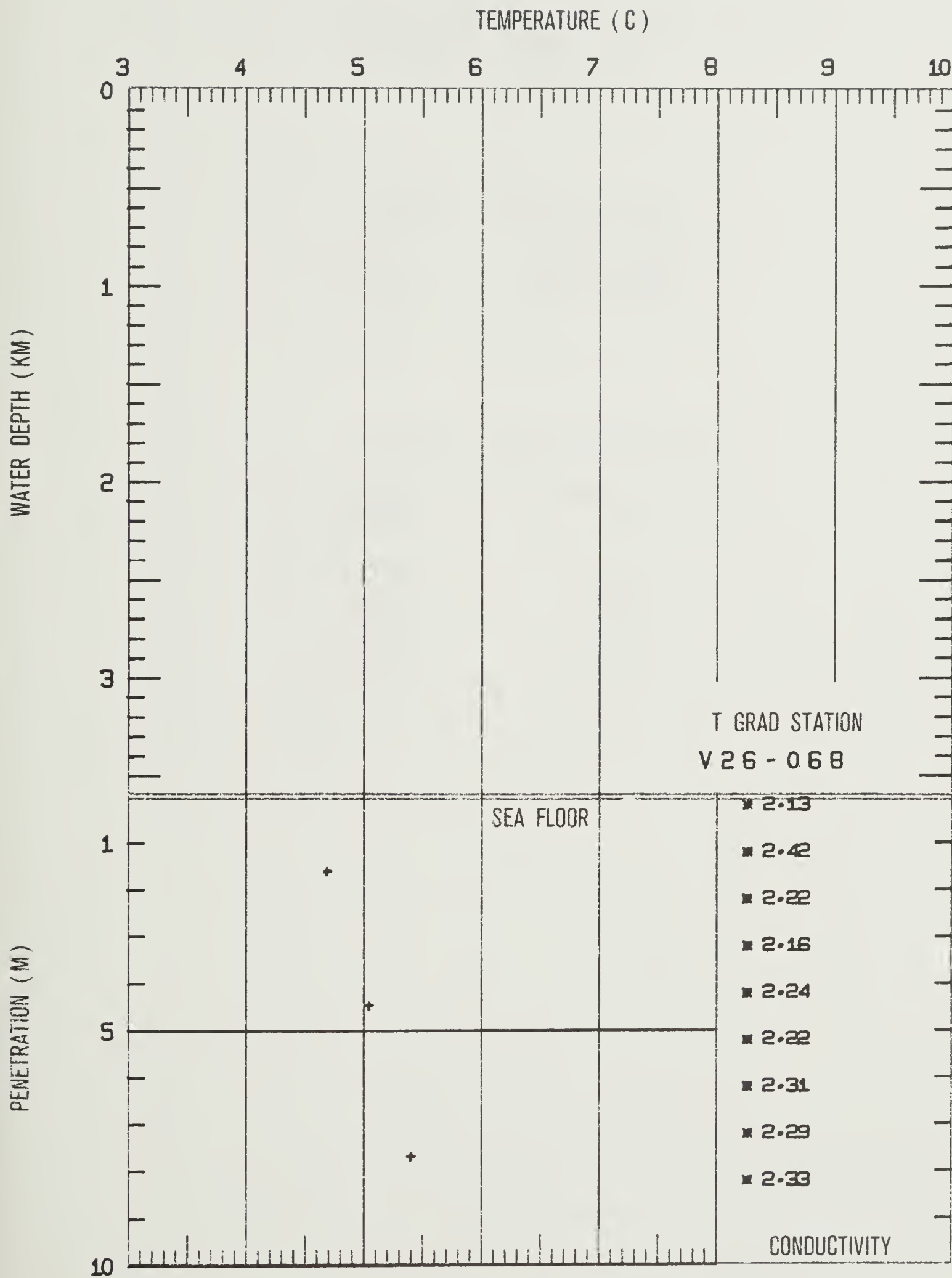
TGRAD STATION V26-068
023 27 N 092 36 W
CRUISE STATION 140

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.60	4.703
4.47	5.056
7.69	5.411

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.13
1.20	2.42
2.20	2.22
3.20	2.16
4.20	2.24
5.20	2.22
6.20	2.31
7.20	2.29
8.20	2.33



TGRAD STATION V26-069
025 51 N 092 12 W
CRUISE STATION 141

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.58	4.33

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.96
1.20	2.38
2.20	2.41
3.20	2.53
4.20	2.37

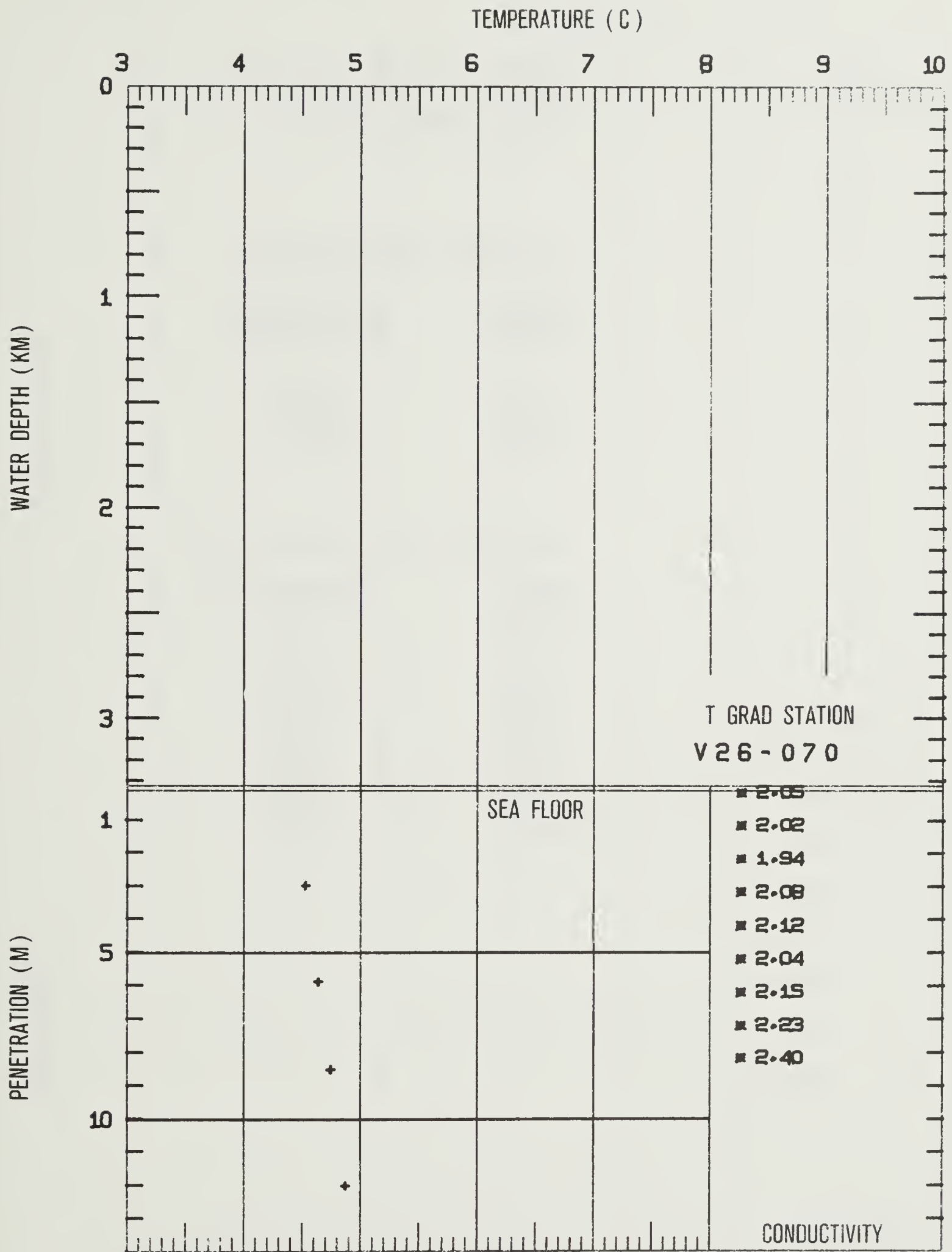
TGRAD STATION V26-070
025 32 N 092 33 W
CRUISE STATION 142

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.98	4.545
5.88	4.651
8.52	4.755
12.02	4.887

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.05
1.20	2.02
2.20	1.94
3.20	2.08
4.20	2.12
5.20	2.04
6.20	2.15
7.20	2.23
8.20	2.40



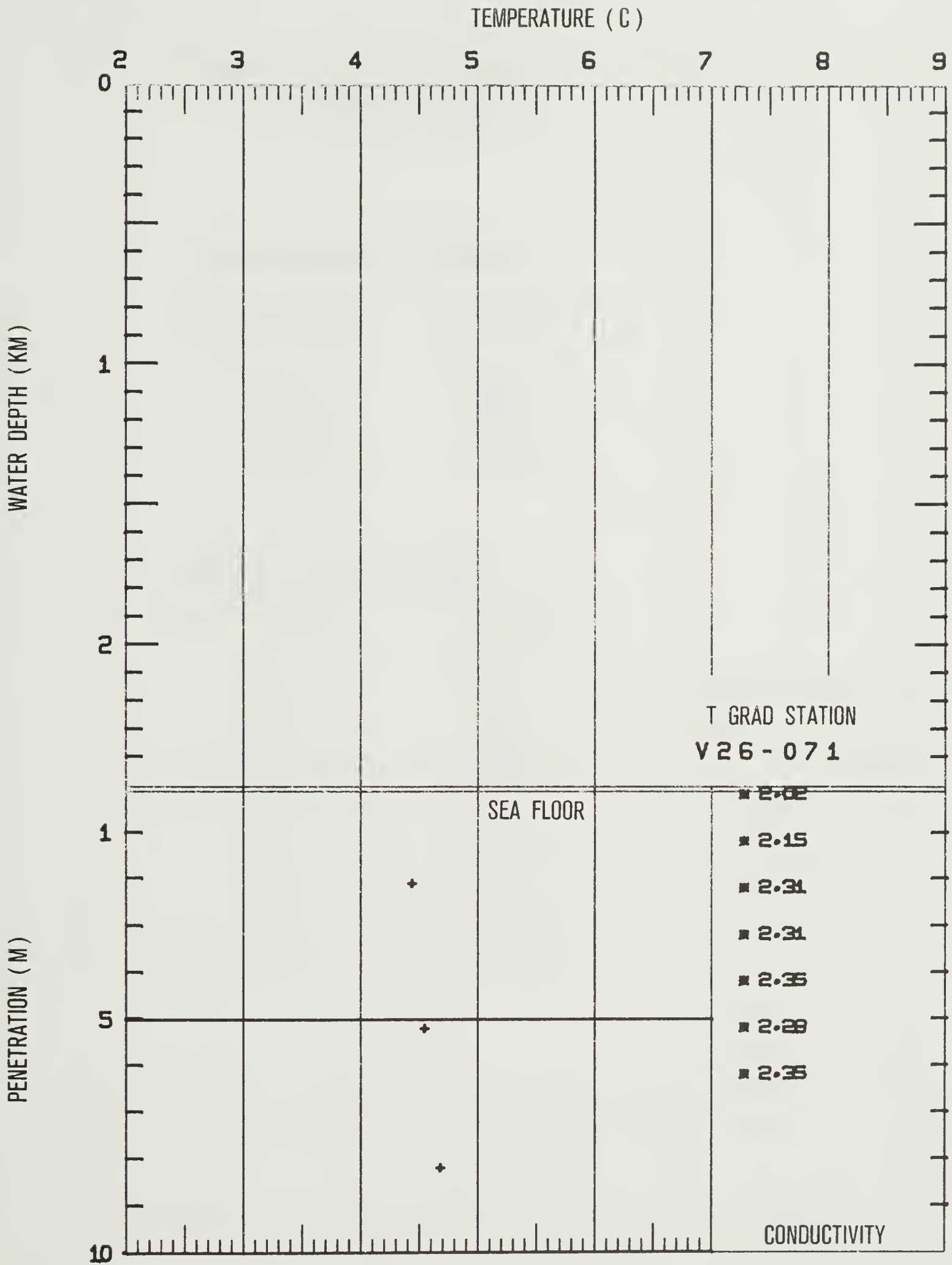
TGRAD STATION V26-071
025 53 N 092 17 W
CRUISE STATION 143

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.10	4.444
5.22	4.549
8.20	4.687

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.02
1.20	2.15
2.20	2.31
3.20	2.31
4.20	2.35
5.20	2.28
6.20	2.35



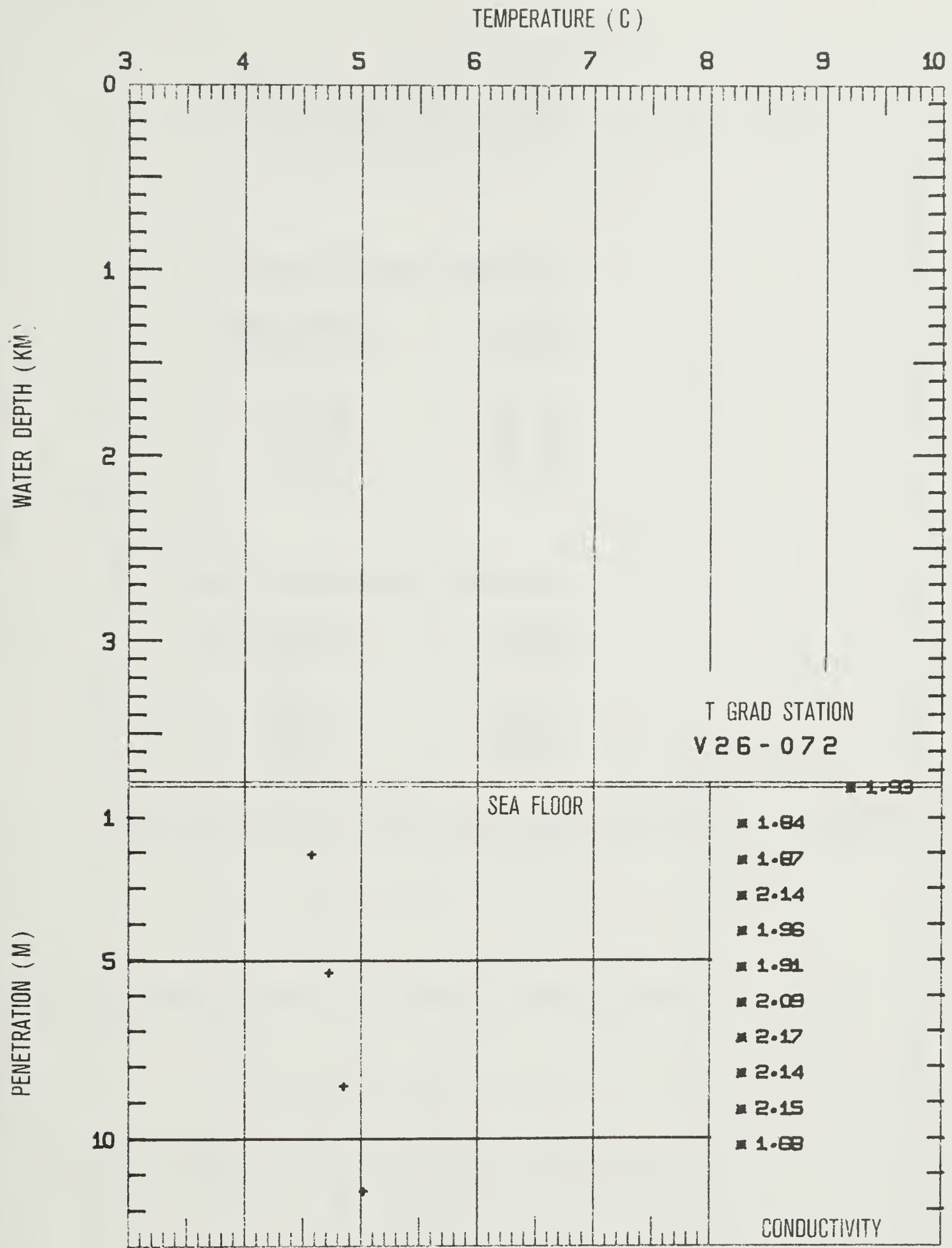
TGRAD STATION V26-072
023 46 N 093 35 W
CRUISE STATION 144

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.06	4.571
5.37	4.720
8.54	4.842
11.48	5.012

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	1.93
1.20	1.84
2.20	1.87
3.20	2.14
4.20	1.96
5.20	1.91
6.20	2.09
7.20	2.17
8.20	2.14
9.20	2.15
10.20	1.68



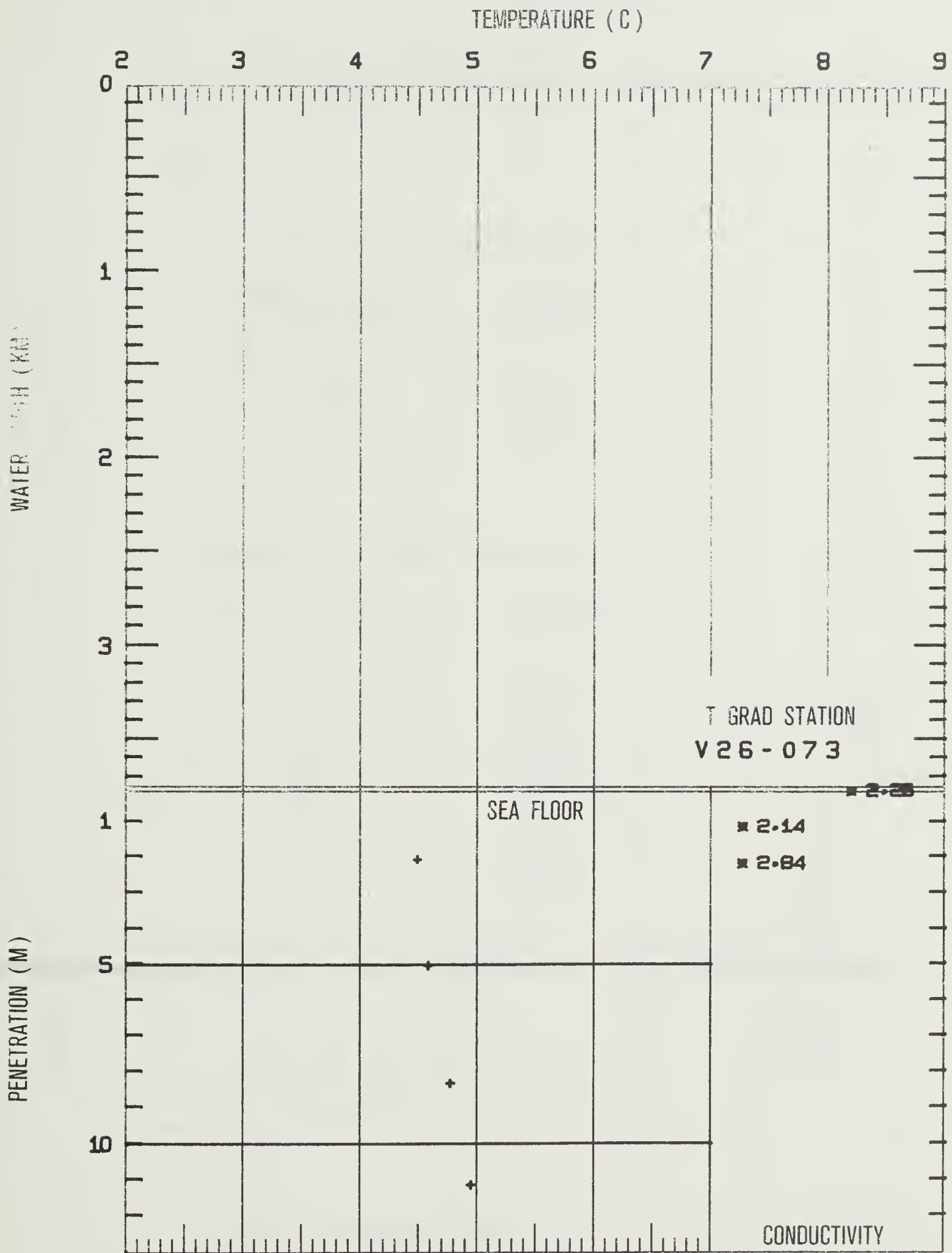
TGRAD STATION V26-073
024 14 N 091 41 W
CRUISE STATION 145

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.10	4.491
5.06	4.586
8.35	4.773
11.17	4.942

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.25
1.20	2.14
2.20	2.84



TGRAD STATION V26-074
025 50 N 088 08 W
CRUISE STATION 146

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.28	4.422
5.58	4.536
8.85	4.609
11.69	4.710

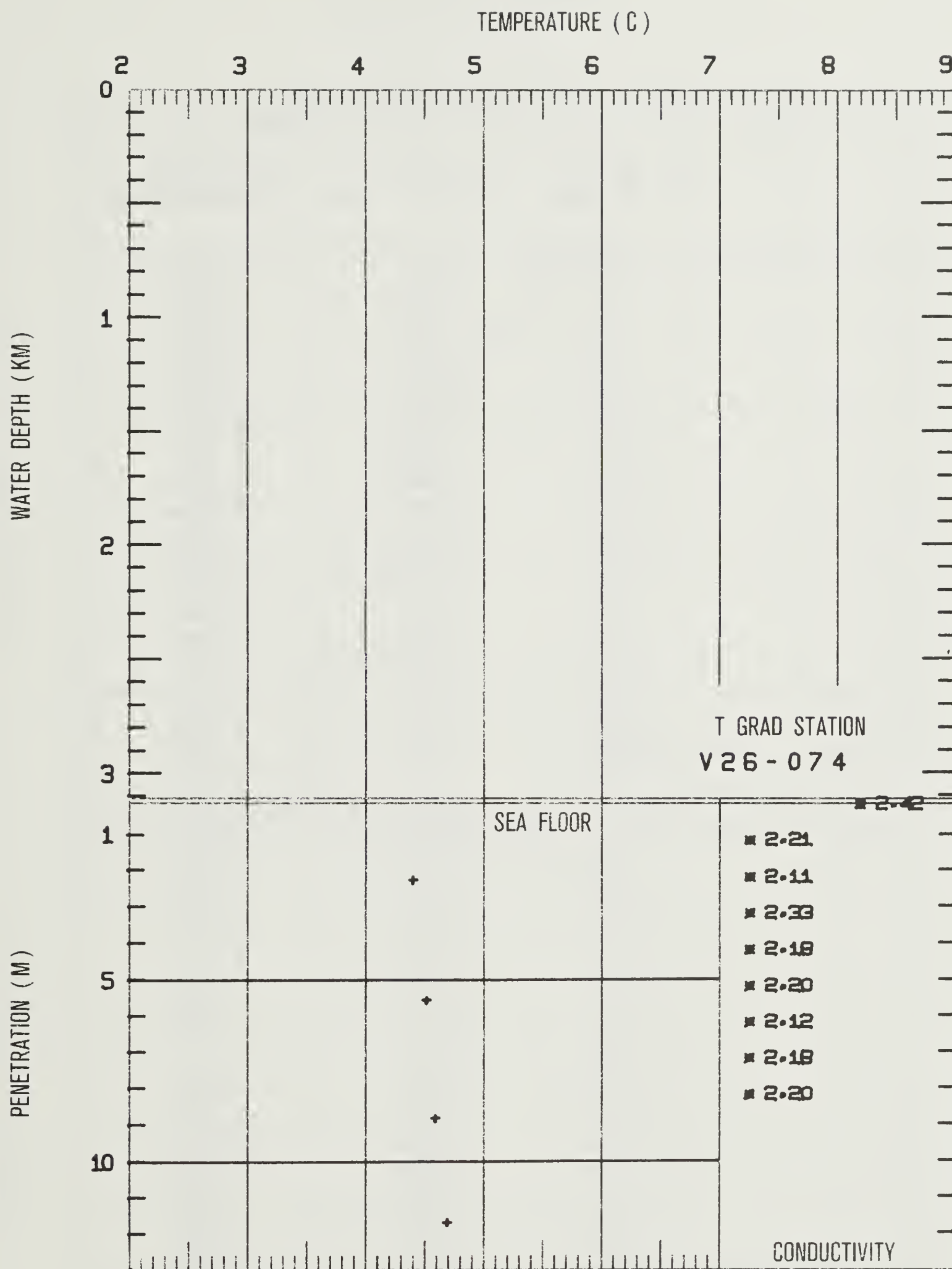
SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.42
1.20	2.21
2.20	2.11
3.20	2.33
4.20	2.18
5.20	2.20
6.20	2.12
7.20	2.18
8.20	2.20

TGRAD STATION V26-075
024 42 N 086 15 W
CRUISE STATION 147

SEDIMENT CONDUCTIVITIES

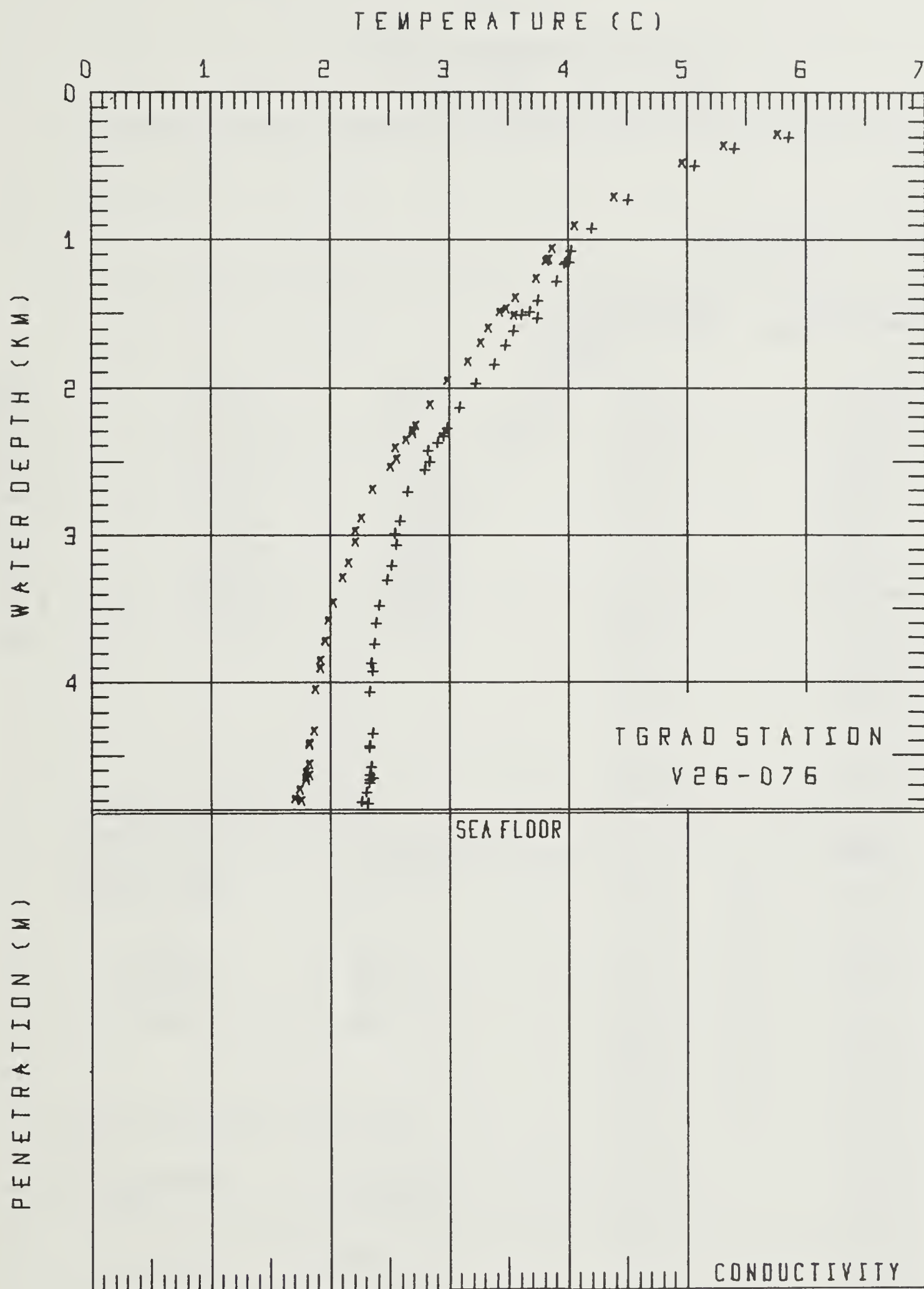
DEPTH METERS	CONDUCTIVITY CGS
0.20	1.94
1.20	2.13



TGRAD STATION V26-076
030 09 N 076 01 W
CRUISE STATION 150

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
361	5.795	5.763
437	5.344	5.309
550	5.010	4.967
783	4.449	4.387
976	4.133	4.054
1122	3.968	3.877
1214	3.916	3.817
1200	3.946	3.848
1200	3.923	3.825
1330	3.849	3.740
1459	3.685	3.566
1539	3.613	3.487
1560	3.556	3.429
1581	3.678	3.547
1665	3.480	3.342
1771	3.423	3.276
1900	3.319	3.161
2022	3.158	2.989
2191	3.030	2.848
2328	2.925	2.730
2364	2.894	2.696
2387	2.900	2.697
2432	2.850	2.645
2486	2.765	2.555
2553	2.780	2.563
2610	2.734	2.513
2762	2.596	2.361
2954	2.530	2.275
3043	2.489	2.224
3124	2.494	2.220
3261	2.454	2.165
3362	2.415	2.115
3529	2.351	2.033
3649	2.325	1.993
3790	2.315	1.966
3918	2.288	1.924
3977	2.298	1.925
4114	2.269	1.880
4399	2.293	1.865
4490	2.266	1.828
4498	2.271	1.832
4633	2.290	1.831
4679	2.275	1.809
4699	2.297	1.828
4718	2.269	1.799
4739	2.276	1.802
4797	2.238	1.757
4868	2.204	1.714
4877	2.262	1.767



TGRAD STATION V26-077
027 41 N 074 13 W
CRUISE STATION 151

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
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1133	5.708	5.600
1198	5.377	5.265
1211	5.213	5.101
1232	5.087	4.975
1297	4.854	4.736
1375	4.548	4.427
1440	4.405	4.278
1516	4.286	4.153
1530	4.211	4.078
1533	4.177	4.045
1549	4.161	4.026
1611	4.045	3.905
1691	4.019	3.870
1769	3.929	3.776
1826	3.872	3.712
1896	3.796	3.630
1921	3.771	3.604
1968	3.713	3.540
2060	3.650	3.468
2154	3.520	3.331
2360	3.322	3.115
2400	3.258	3.047
2414	3.250	3.036
2455	3.210	2.994
2527	3.139	2.916
2569	3.088	2.862
2605	3.039	2.809
2669	2.977	2.743
2719	2.961	2.721
2783	2.902	2.657
2845	2.832	2.581
2902	2.775	2.519
2967	2.701	2.440
2992	2.677	2.414
3372	2.391	2.092
3374	2.383	2.084
3459	2.345	2.036
3622	2.323	1.994
3845	2.266	1.911
3989	2.246	1.875

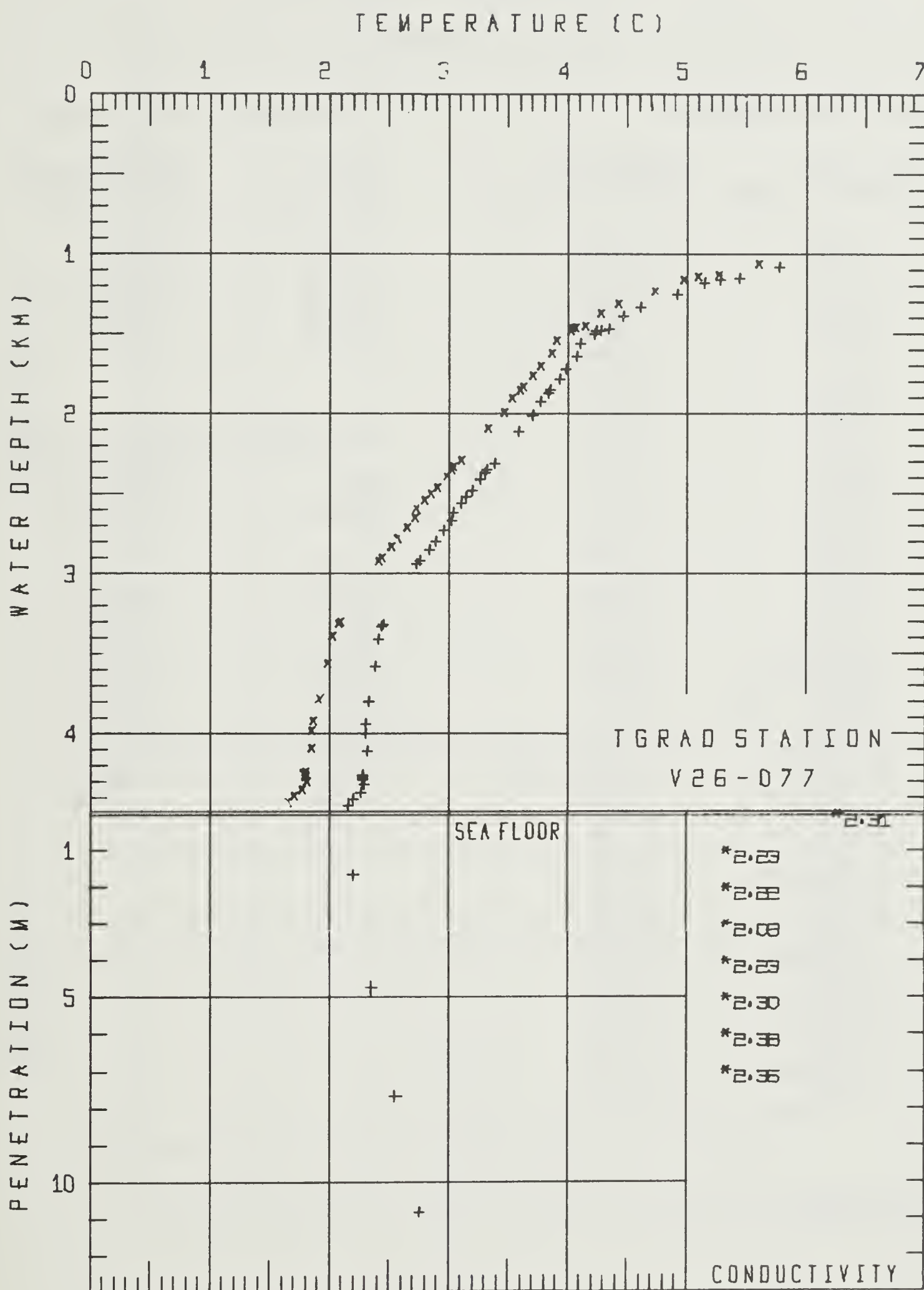
4052	2.239	1.859
4157	2.256	1.861
4319	2.211	1.798
4363	2.232	1.812
4331	2.223	1.808
4303	2.217	1.805
4335	2.221	1.805
4415	2.206	1.779
4456	2.144	1.714
4497	2.098	1.664

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.82	2.232
4.93	2.382
7.75	2.542
11.04	2.703

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.31
1.20	2.23
2.20	2.22
3.20	2.09
4.20	2.23
5.20	2.30
6.20	2.38
7.20	2.36



TGRAD STATION V26-078
 024 47 N 074 22 W
 CRUISE STATION 152

WATER TEMPERATURES

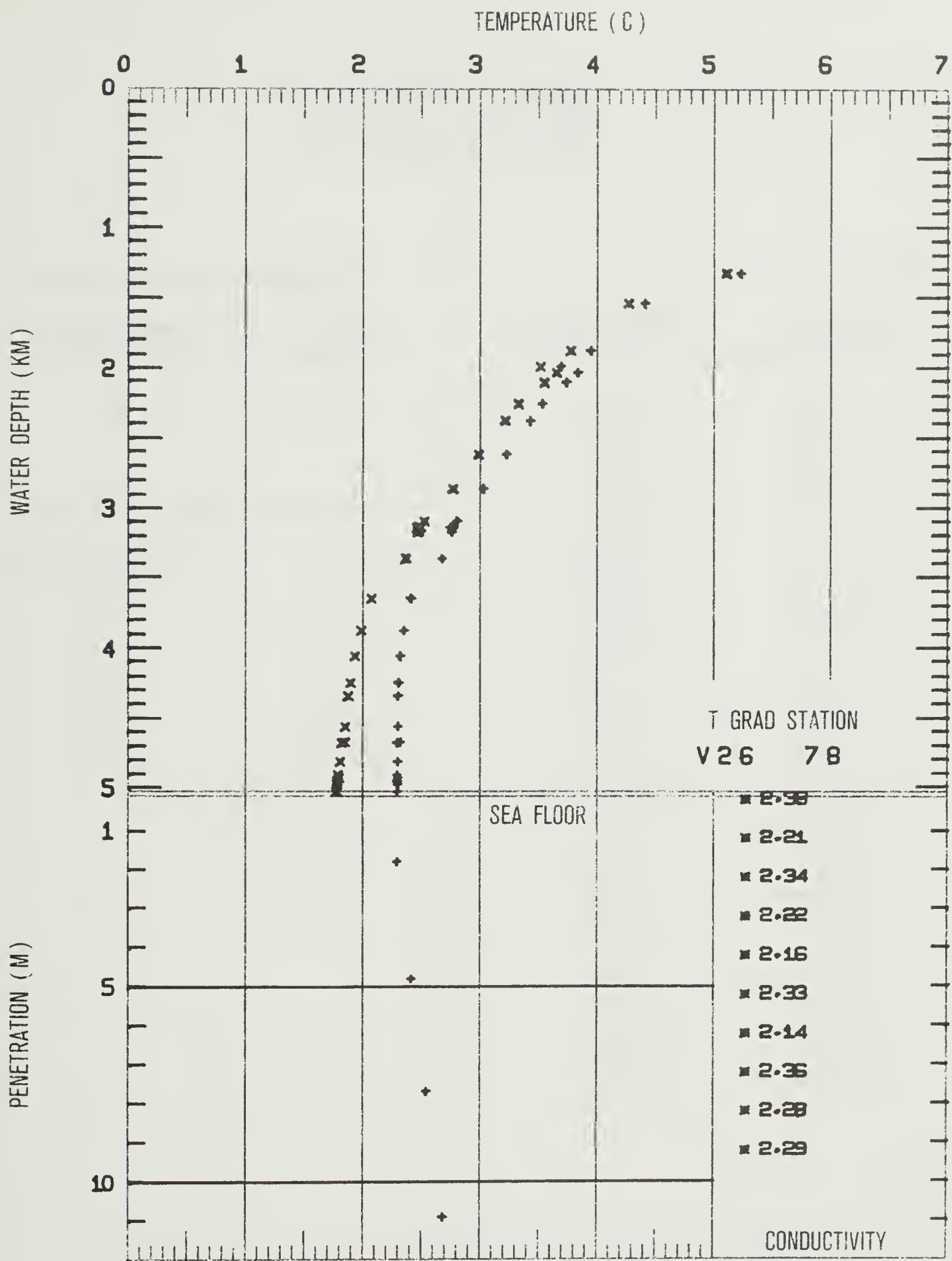
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1320	5.226	5.102
1538	4.402	4.265
1874	3.937	3.771
2031	3.835	3.653
2103	3.733	3.546
2256	3.521	3.322
2374	3.427	3.214
1988	3.686	3.513
2615	3.217	2.983
2863	3.026	2.767
3091	2.796	2.517
3170	2.750	2.462
3145	2.759	2.475
3139	2.766	2.482
3143	2.763	2.479
3130	2.755	2.473
3136	2.772	2.488
3135	2.740	2.457
3358	2.673	2.365
3644	2.407	2.072
3870	2.343	1.983
4053	2.313	1.930
4246	2.299	1.891
4342	2.293	1.874
4560	2.291	1.842
4670	2.309	1.842
4675	2.284	1.819
4811	2.290	1.805
4949	2.285	1.780
4969	2.289	1.780
4927	2.295	1.792
4903	2.286	1.788
5021	2.284	1.769

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.80	2.284
4.79	2.404
7.68	2.534
10.90	2.674

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.38
1.20	2.21
2.20	2.34
3.20	2.22
4.20	2.16
5.20	2.33
6.20	2.14
7.20	2.36
8.20	2.28
9.20	2.29



TGRAD STATION V26-079
 024 57 N 073 30 W
 CRUISE STATION 153

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1112	5.964	5.855
1246	5.427	5.309
1603	4.230	4.088
1879	3.868	3.703
2012	3.789	3.611
2012	3.747	3.569
2313	3.559	3.352
2313	3.538	3.330
2580	3.323	3.092
2930	3.042	2.776
3190	2.809	2.519
3539	2.592	2.264
3674	2.517	2.175
3862	2.434	2.071
3892	2.376	2.013
4200	2.319	1.917
4490	2.269	1.828
4763	2.275	1.796
4905	2.284	1.786
5082	2.278	1.753
5106	2.251	1.724
5174	2.230	1.694
5198	2.233	1.694
5201	2.226	1.687
5274	2.210	1.661
5350	2.201	1.641
5346	2.188	1.630

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
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3.45	2.579
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SEDIMENT CONDUCTIVITIES

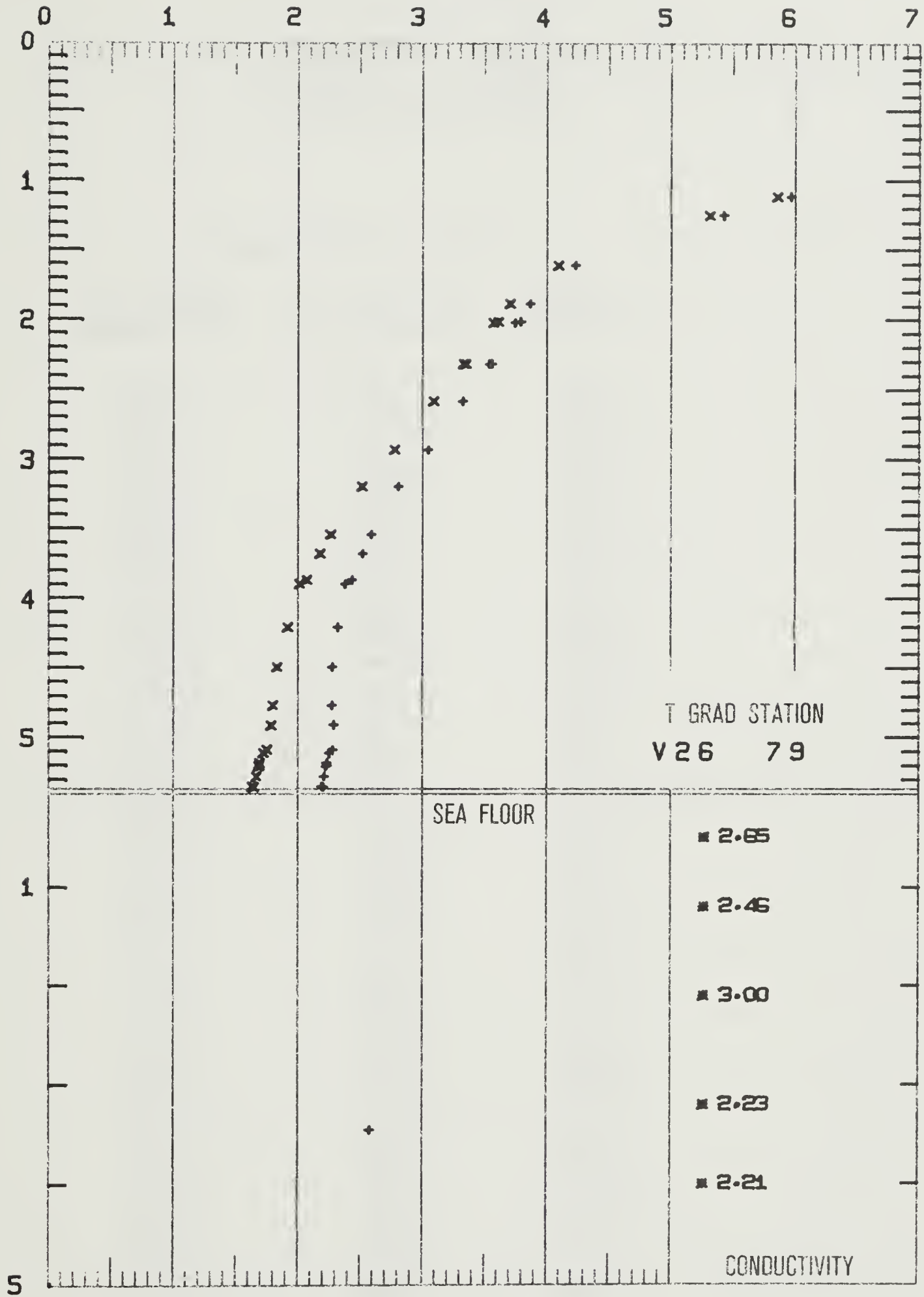
DEPTH METERS	CONDUCTIVITY CGS
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0.50	2.65
1.20	2.46
2.10	3.00
3.20	2.23
4.00	2.21

TEMPERATURE (C)

WATER DEPTH (KM)

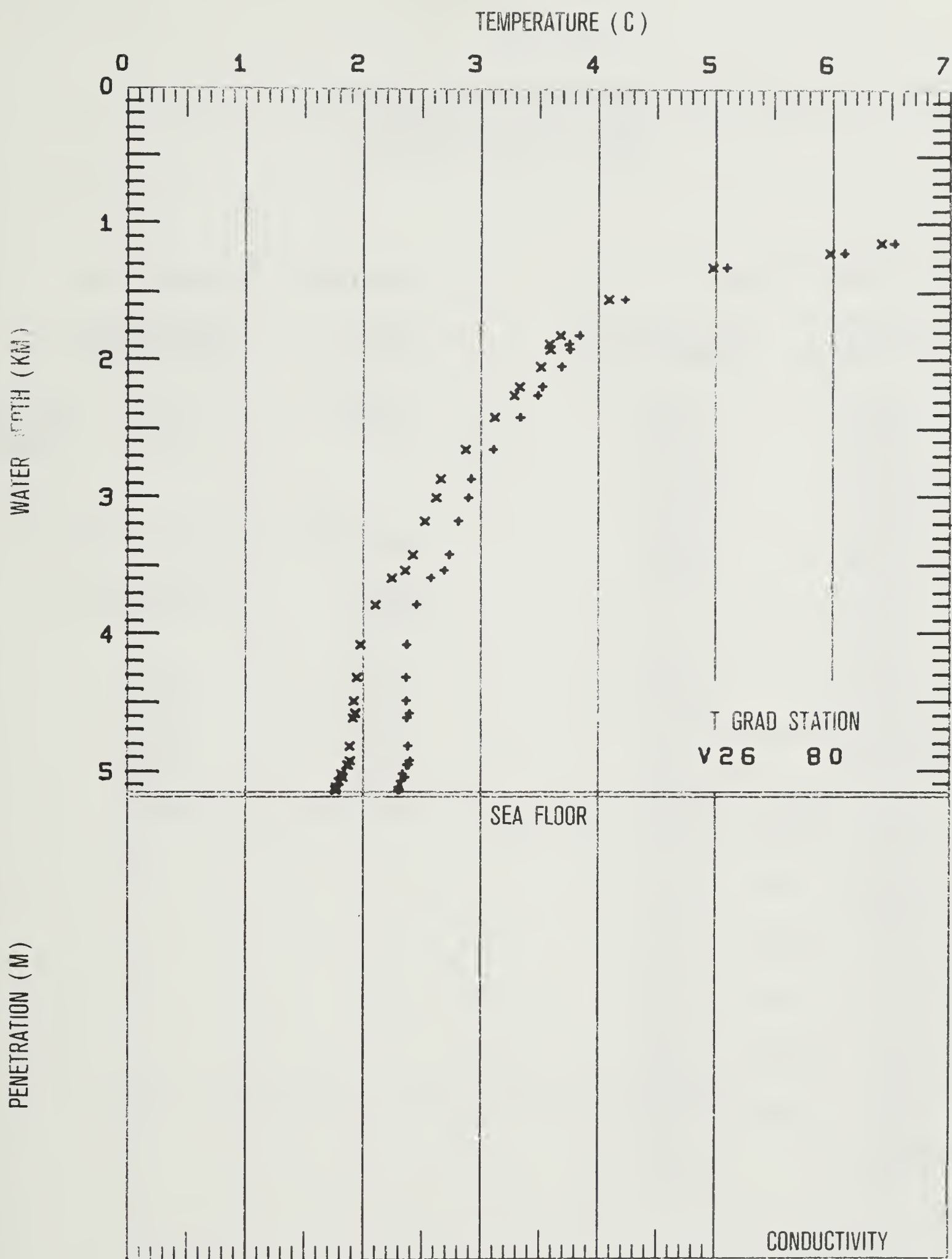
PENETRATION (M)



TGRAD STATION V26- 80
24.24 N 74.01 W
CRUISE STATION 154

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1137	6.547	6.430
1210	6.115	5.994
1319	5.114	4.993
1552	4.243	4.107
1815	3.851	3.693
1879	3.763	3.600
1920	3.775	3.606
2045	3.705	3.526
2194	3.539	3.346
2258	3.495	3.296
2415	3.348	3.133
2648	3.118	2.881
2864	2.930	2.674
3002	2.905	2.634
3174	2.821	2.530
3422	2.747	2.429
3538	2.697	2.365
3594	2.584	2.250
3784	2.462	2.108
4076	2.375	1.986
4317	2.369	1.948
4487	2.370	1.927
4615	2.380	1.917
4581	2.397	1.940
4817	2.384	1.894
4930	2.396	1.888
4954	2.377	1.867
4956	2.388	1.877
5047	2.358	1.835
5137	2.309	1.775
5022	2.339	1.821
5078	2.328	1.800
5117	2.303	1.773
5140	2.305	1.772



TGRAD STATION V26-081
 024 23 N 073 42 W
 CRUISE STATION 155

WATER TEMPERATURES

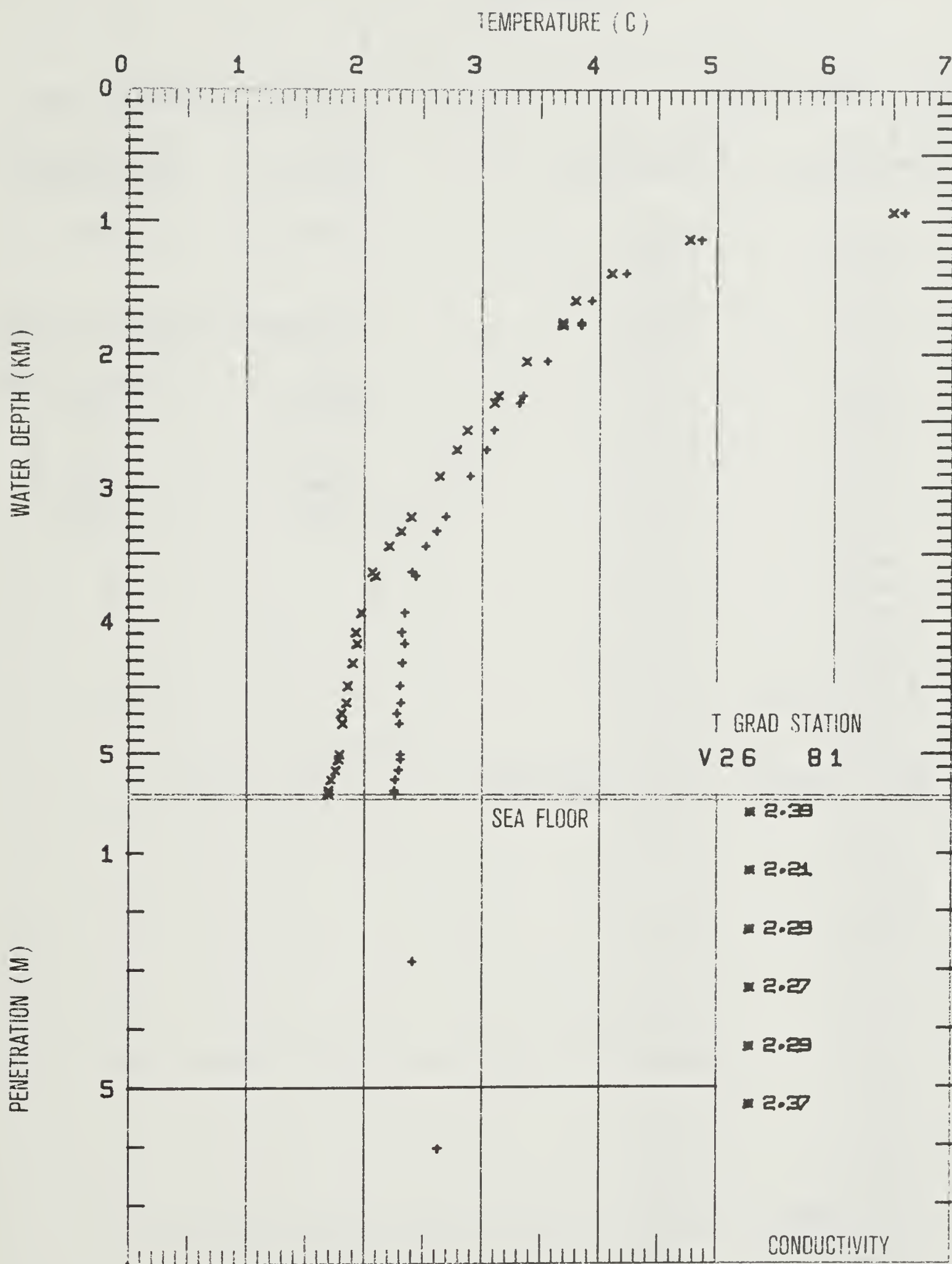
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
933	6.580	6.486
1138	4.854	4.752
1391	4.219	4.100
1596	3.931	3.796
1759	3.846	3.694
1780	3.845	3.690
2046	3.559	3.381
2309	3.349	3.146
2359	3.322	3.113
2564	3.112	2.887
2716	3.042	2.800
2915	2.914	2.653
3212	2.705	2.414
3325	2.627	2.325
3435	2.533	2.221
3634	2.420	2.086
3660	2.448	2.111
3939	2.359	1.990
4084	2.335	1.947
4164	2.355	1.956
4314	2.336	1.917
4482	2.319	1.878
4615	2.323	1.865
4692	2.290	1.822
4769	2.315	1.834
5004	2.319	1.805
5040	2.318	1.799
5118	2.304	1.773
5194	2.269	1.730
5273	2.266	1.714
5297	2.269	1.713

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE	
2.85	2.418	COOLING
6.05	2.628	COOLING

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.30	2.39
1.30	2.21
2.30	2.29
3.30	2.27
4.30	2.29
5.30	2.37



WATER TEMPERATURES

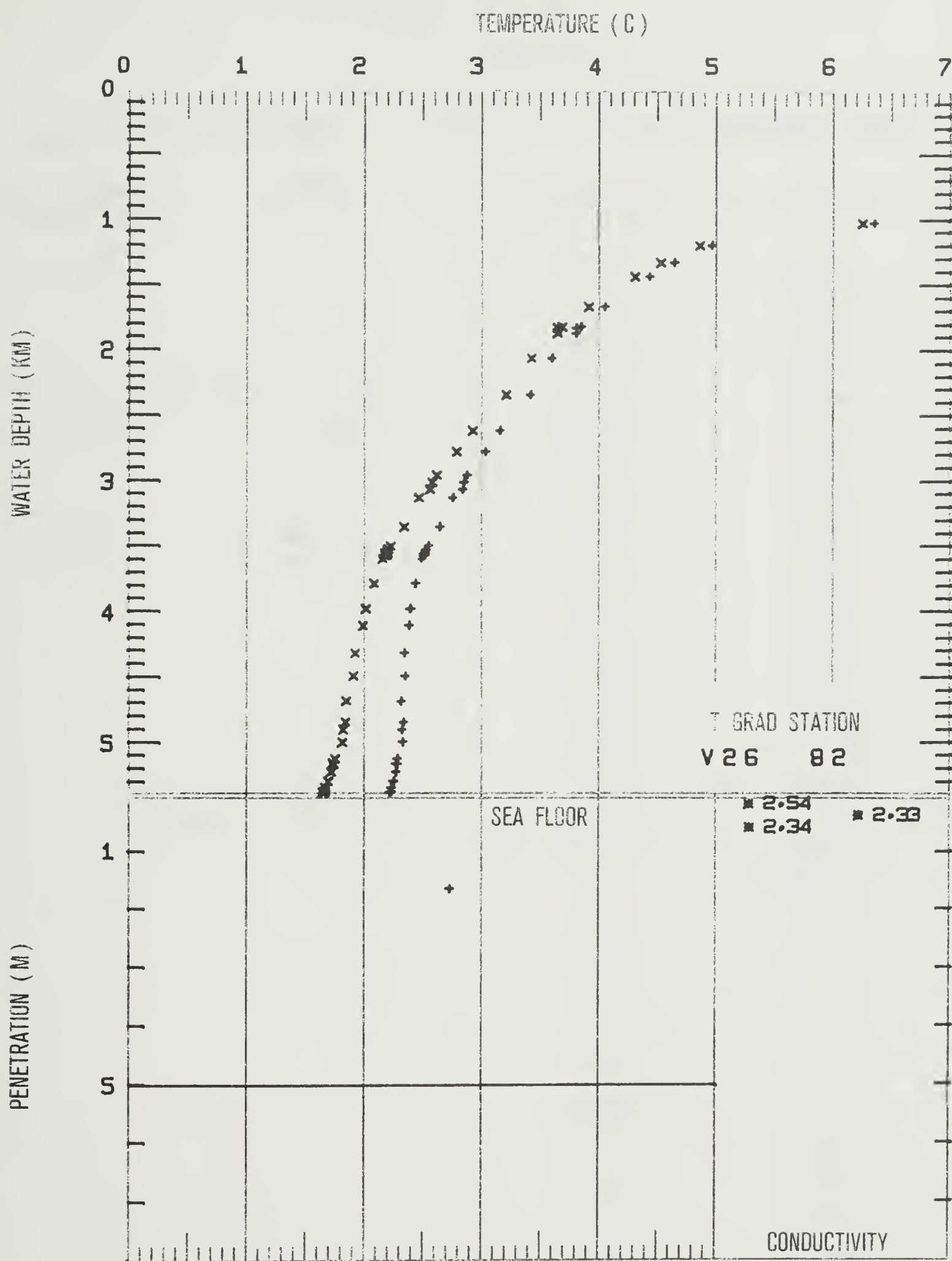
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1020	6.352	6.250
1188	4.962	4.855
1317	4.642	4.526
1424	4.431	4.306
1660	4.054	3.908
1815	3.842	3.684
1813	3.845	3.687
1821	3.805	3.647
1864	3.806	3.644
2054	3.600	3.421
2337	3.417	3.210
2608	3.157	2.924
2768	3.039	2.791
2950	2.888	2.624
3002	2.855	2.585
3054	2.842	2.565
3122	2.756	2.474
3342	2.650	2.344
3495	2.554	2.234
3543	2.527	2.203
3560	2.526	2.197
3547	2.527	2.201
3563	2.513	2.185
3558	2.516	2.190
3520	2.530	2.207
3546	2.517	2.192
3517	2.534	2.211
3548	2.508	2.183
3585	2.492	2.161
3777	2.441	2.089
3968	2.401	2.026
3968	2.395	2.020
4100	2.389	1.997
4311	2.352	1.934
4484	2.361	1.917
4678	2.326	1.858
4892	2.334	1.834
4838	2.344	1.852
4991	2.339	1.825
5119	2.295	1.763
5155	2.289	1.753
5153	2.276	1.742
5219	2.279	1.734
5287	2.257	1.703
5373	2.224	1.661
5335	2.238	1.680
5366	2.240	1.677

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.65	2.730

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.54
0.40	2.33
0.60	2.34



WATER TEMPERATURES

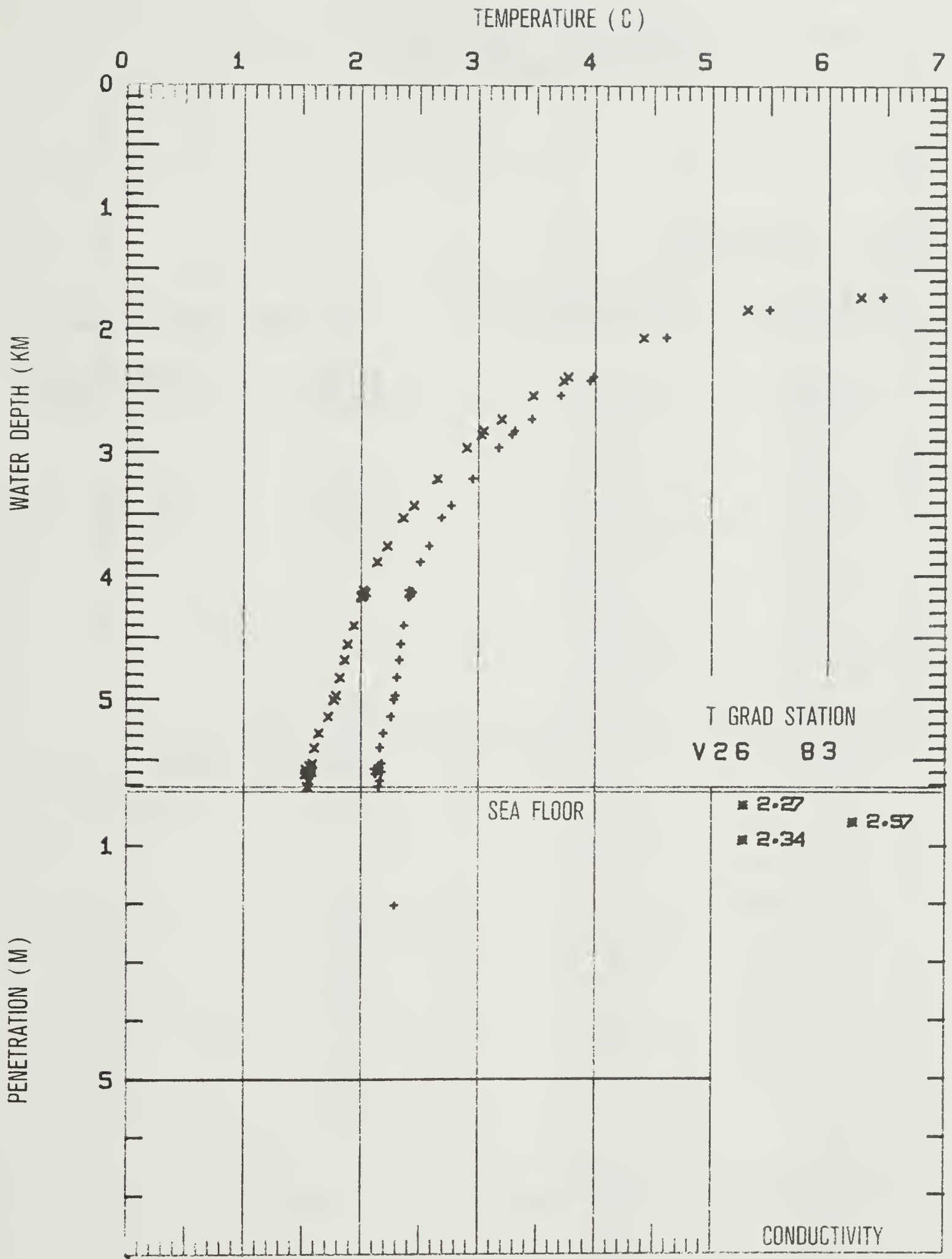
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1725	6.463	6.276
1829	5.498	5.311
2056	4.614	4.416
2374	3.993	3.769
2401	3.960	3.733
2522	3.706	3.471
2714	3.460	3.207
2810	3.309	3.048
2838	3.292	3.030
2949	3.180	2.907
3200	2.957	2.660
3416	2.776	2.459
3518	2.693	2.365
3745	2.585	2.231
3884	2.510	2.142
4108	2.417	2.023
4124	2.436	2.039
4125	2.442	2.045
4149	2.421	2.021
4147	2.421	2.021
4153	2.424	2.025
4150	2.414	2.013
4164	2.414	2.013
4395	2.372	1.941
4549	2.342	1.891
4674	2.330	1.862
4821	2.313	1.825
4964	2.297	1.789
4998	2.285	1.773
4995	2.283	1.772
5133	2.255	1.723
5267	2.188	1.641
5389	2.167	1.604
5534	2.151	1.565
5564	2.120	1.532
5597	2.126	1.533
5514	2.177	1.594
5554	2.167	1.578
5585	2.177	1.582
5657	2.164	1.559
5707	2.153	1.542

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.02	2.293

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.30	2.27
0.60	2.57
0.90	2.34



TGRAD STATION V26-084
 024 29 N 065 18 W
 CRUISE STATION 158

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1070	6.652	6.541
1272	5.688	5.565
1518	4.710	4.571
1651	4.264	4.118
1731	4.180	4.026
1885	3.950	3.783
1886	3.960	3.791
1997	3.738	3.562
2218	3.521	3.325
2283	3.428	3.226
2320	3.368	3.164
2464	3.243	3.026
2748	2.949	2.706
3101	2.718	2.440
3337	2.611	2.308
3539	2.496	2.172
3726	2.415	2.071
3769	2.402	2.053
3843	2.400	2.040
4144	2.348	1.951
4196	2.355	1.951
4356	2.316	1.892
4471	2.302	1.864
4547	2.297	1.848
4649	2.280	1.818
4679	2.267	1.802
4885	2.205	1.713
5197	2.104	1.572
5541	2.117	1.532
5606	2.095	1.503
5648	2.074	1.477
5529	2.118	1.535
5536	2.132	1.549
5603	2.137	1.542
5705	2.133	1.523
5769	2.127	1.507
5799	2.145	1.519

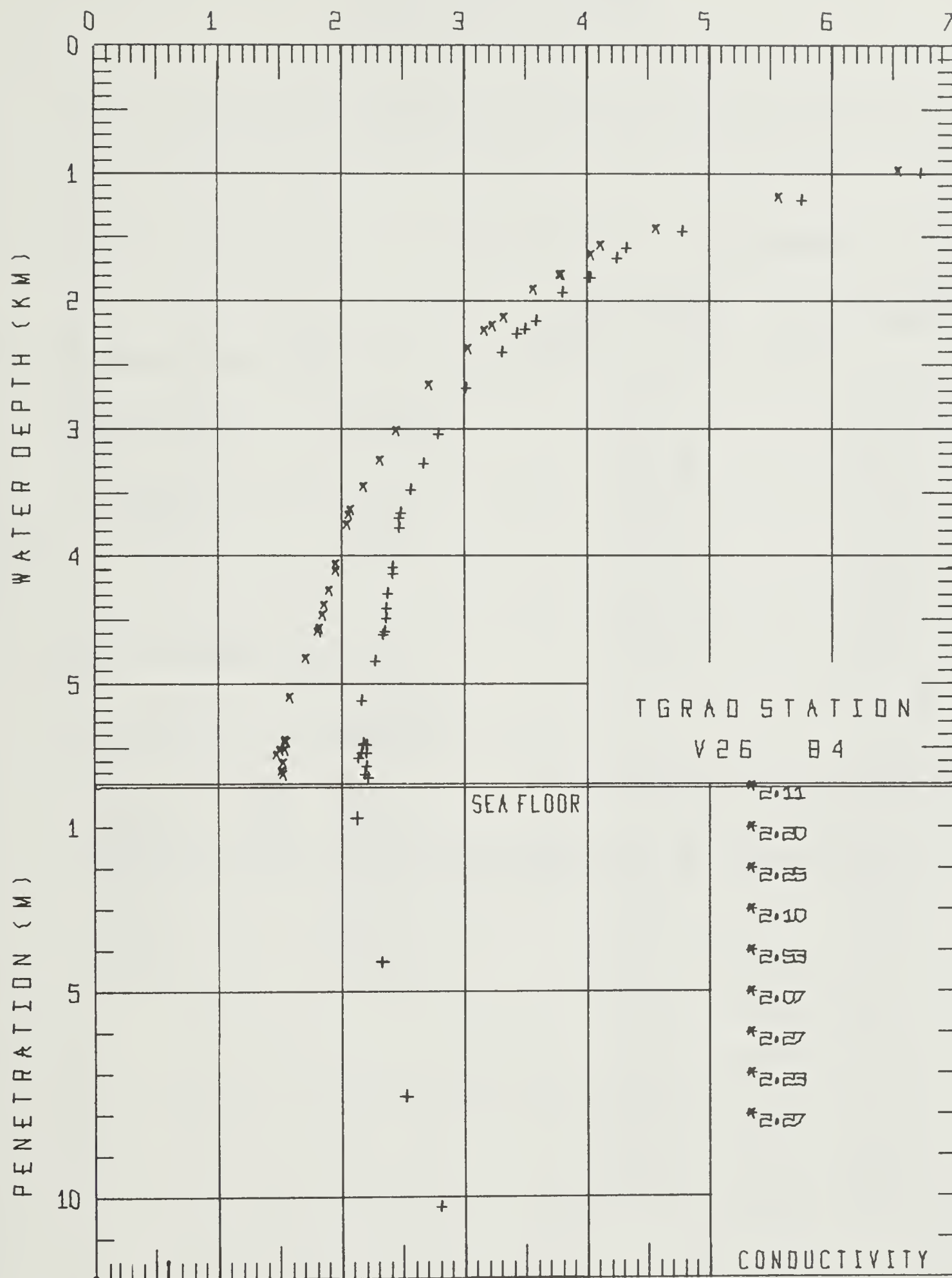
SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.75	2.147
4.26	2.368
7.38	2.527
10.44	2.737

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.11
1.20	2.20
2.20	2.25
3.20	2.10
4.20	2.53
5.20	2.07
6.20	2.27
7.20	2.23
8.20	2.27

TEMPERATURE (C)



TGRAD STATION V26-085
 024 28 N 062 30 W
 CRUISE STATION 159

WATER TEMPERATURES

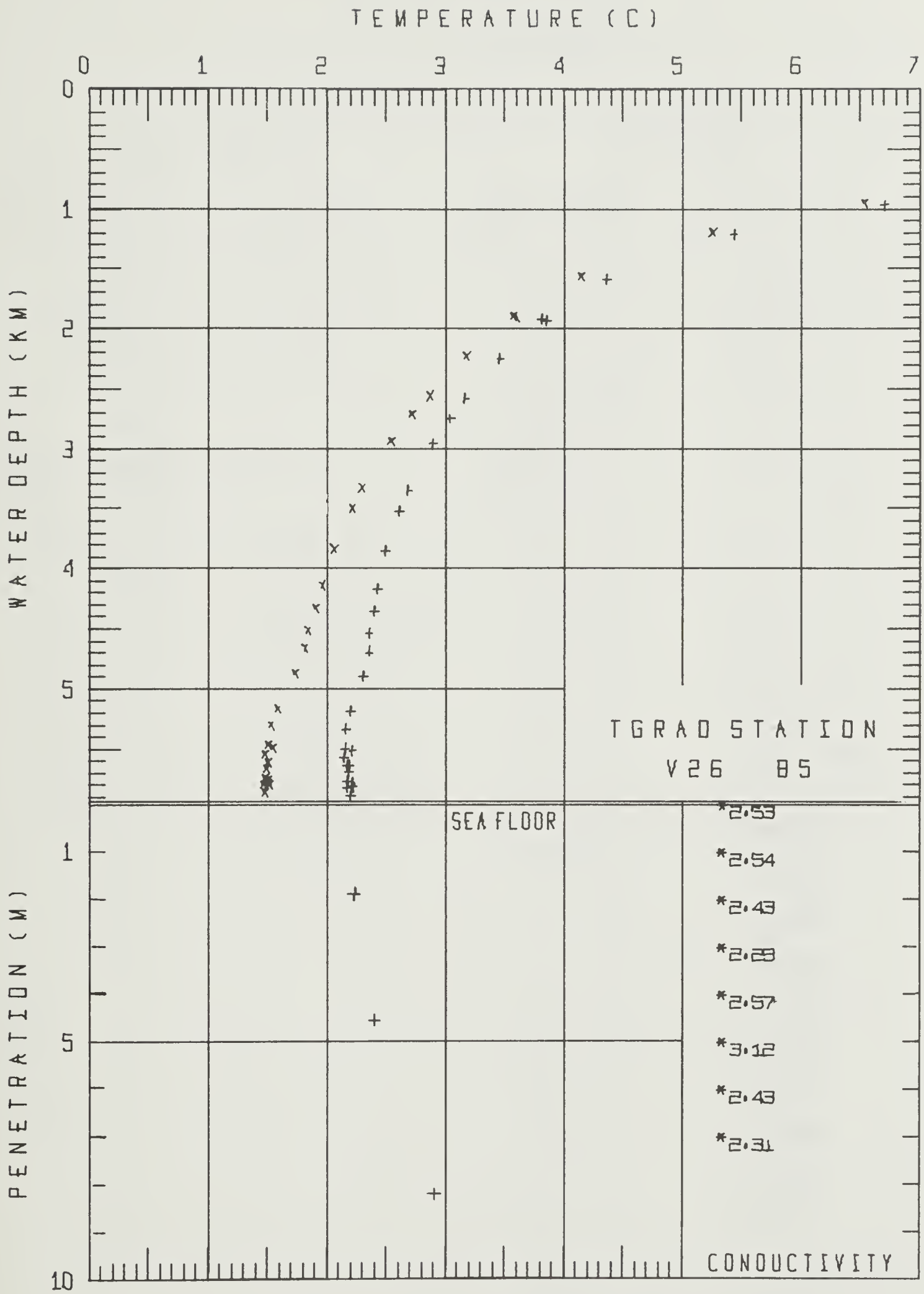
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1050	6.651	6.542
1287	5.376	5.255
1659	4.295	4.146
1994	3.785	3.608
1984	3.756	3.581
2317	3.387	3.181
2642	3.105	2.869
2809	2.980	2.730
3027	2.829	2.556
3417	2.614	2.302
3591	2.554	2.221
3915	2.434	2.063
4235	2.370	1.960
4416	2.344	1.911
4604	2.300	1.845
4753	2.302	1.823
4967	2.250	1.744
5260	2.138	1.595
5405	2.098	1.535
5557	2.096	1.510
5641	2.087	1.490
5584	2.146	1.553
5697	2.118	1.509
5710	2.128	1.517
5755	2.120	1.503
5837	2.114	1.484
5891	2.111	1.473
5955	2.135	1.486
5846	2.151	1.517
5882	2.146	1.507
5894	2.160	1.519

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE	
1.97	2.206	
4.69	2.396	
8.15	2.933	COOLING

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.33
1.20	2.54
2.20	2.43
3.20	2.29
4.20	2.53
5.20	3.12
6.20	2.43
7.20	2.31



TGRAD STATION V26-086
027 27 N 065 16 W
CRUISE STATION 160

WATER TEMPERATURES

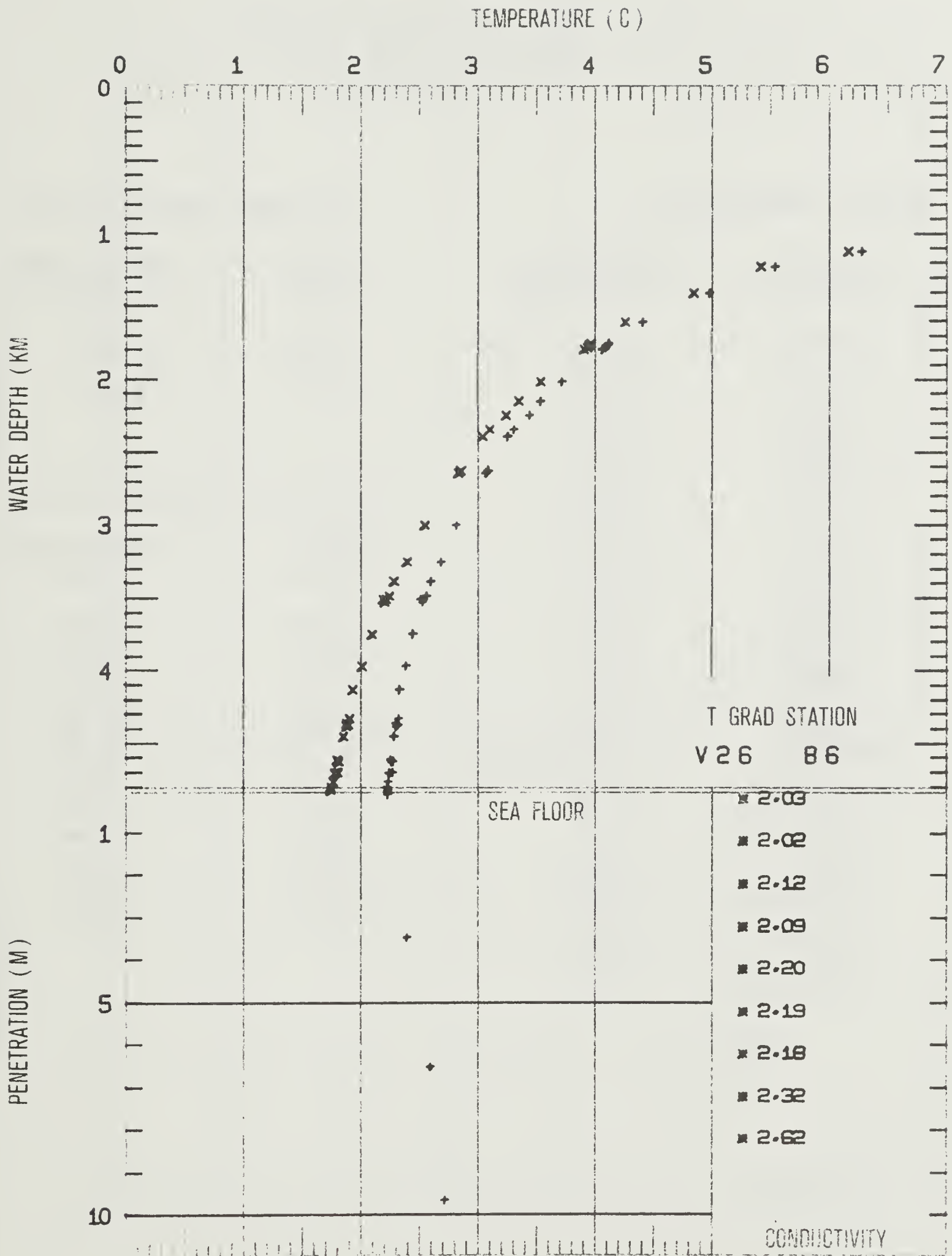
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1119	6.283	6.170
1221	5.543	5.427
1403	4.982	4.852
1599	4.416	4.272
1776	4.107	3.949
1761	4.121	3.964
1752	4.130	3.975
1788	4.076	3.917
2012	3.732	3.554
2149	3.553	3.364
2244	3.456	3.258
2341	3.322	3.117
2389	3.269	3.059
2624	3.105	2.871
2632	3.089	2.856
2640	3.086	2.852
2621	3.102	2.870
2625	3.106	2.874
2637	3.086	2.854
3000	2.830	2.561
3249	2.705	2.409
3382	2.609	2.300
3528	2.543	2.219
3484	2.576	2.256
3507	2.550	2.229
3507	2.526	2.205
3748	2.460	2.111
3965	2.397	2.022
4127	2.342	1.947
4355	2.315	1.891
4324	2.338	1.918
4369	2.335	1.908
4380	2.321	1.894
4448	2.299	1.865
4610	2.269	1.813
4695	2.286	1.818
4700	2.256	1.789
4621	2.278	1.819
4618	2.291	1.834
4698	2.260	1.792
4760	2.252	1.776
4794	2.240	1.759
4817	2.243	1.759

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.10	2.243
3.47	2.402
6.51	2.602
9.65	2.732

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.03
1.20	2.02
2.20	2.12
3.20	2.09
4.20	2.20
5.20	2.19
6.20	2.18
7.20	2.32
8.20	2.62



TGRAD STATION V26-087
 029 46 N 069 53 W
 CRUISE STATION 161

WATER TEMPERATURES

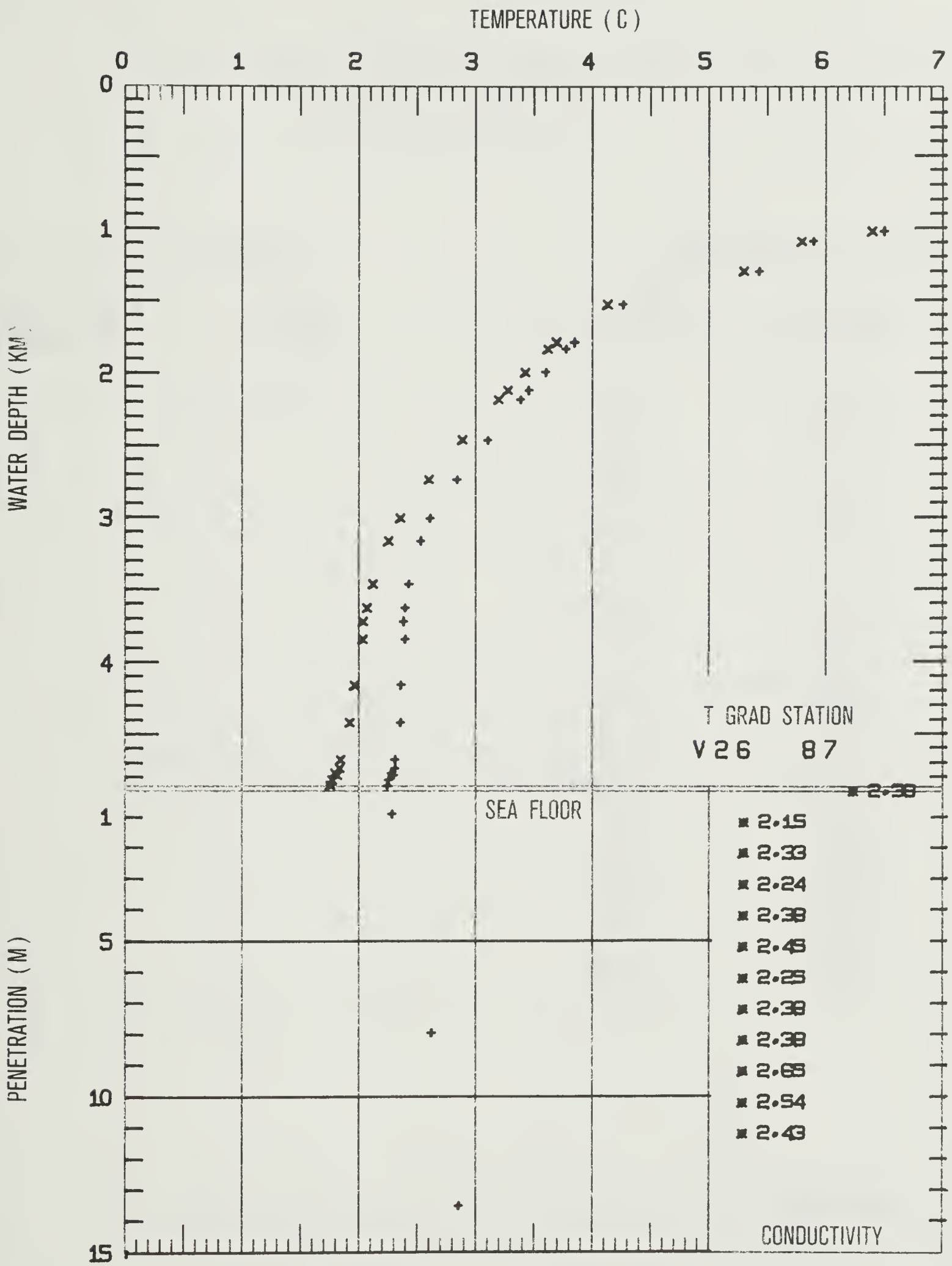
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1019	6.467	6.364
1087	5.866	5.762
1294	5.397	5.274
1525	4.243	4.111
1791	3.835	3.679
1783	3.829	3.675
1835	3.760	3.601
1995	3.582	3.409
2117	3.447	3.263
2185	3.372	3.184
2463	3.092	2.877
2738	2.829	2.591
3003	2.605	2.342
3159	2.520	2.242
3457	2.420	2.108
3624	2.388	2.056
3716	2.369	2.027
3842	2.384	2.026
4161	2.349	1.950
4416	2.343	1.911
4679	2.297	1.831
4737	2.298	1.822
4786	2.288	1.805
4767	2.264	1.786
4815	2.244	1.760
4855	2.234	1.746

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.92	2.275
7.95	2.614
13.49	2.844

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.38
1.20	2.15
2.20	2.33
3.20	2.24
4.20	2.38
5.20	2.45
6.20	2.25
7.20	2.38
8.20	2.38
9.20	2.65
10.20	2.54
11.20	2.43



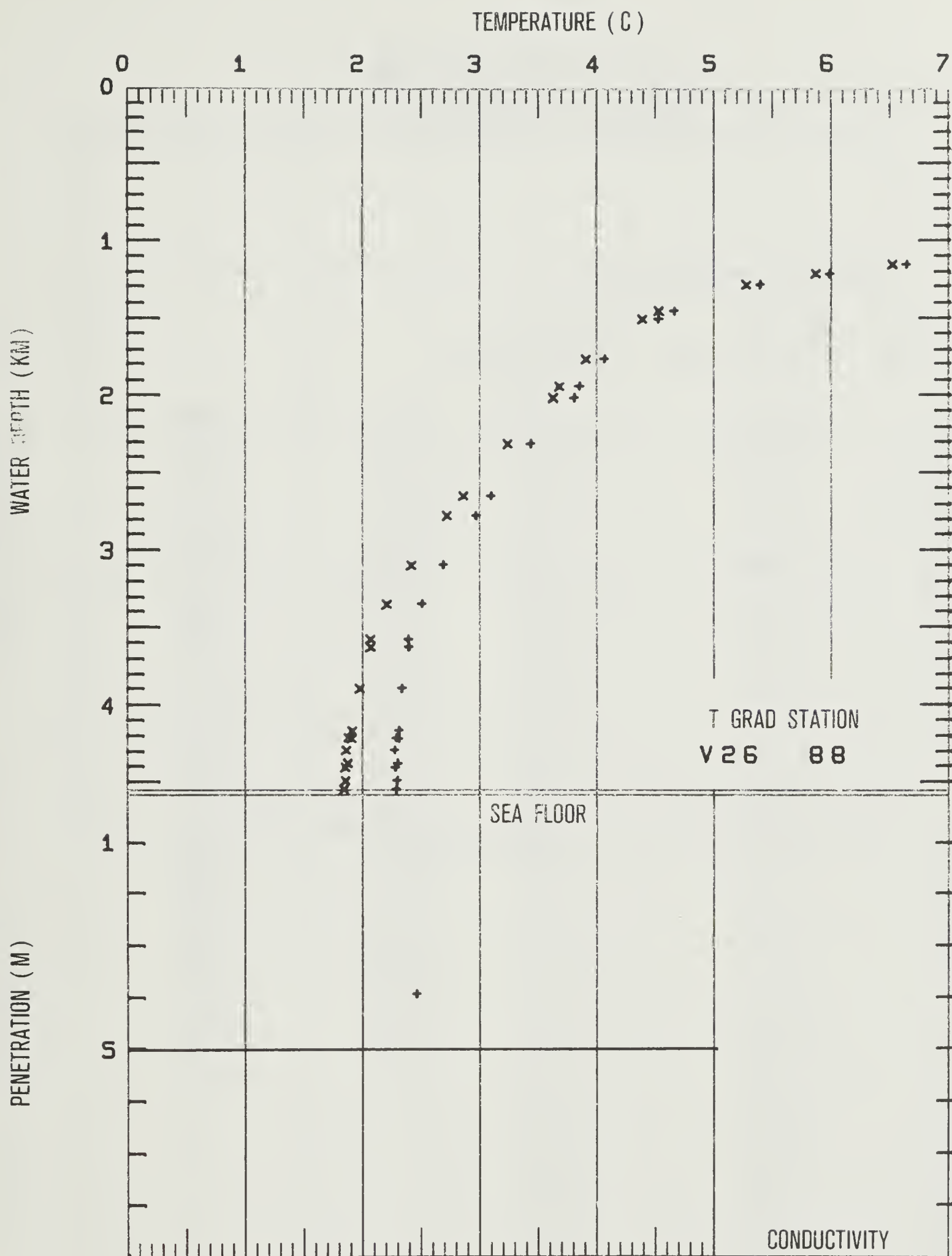
TGRAD STATION V26-088
031 00 N 067 06 W
CRUISE STATION 162

WATER TEMPERATURES

SEDIMENT TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1154	6.639	6.519
1213	5.984	5.864
1280	5.394	5.273
1505	4.522	4.387
1762	4.062	3.907
1450	4.658	4.526
1941	3.851	3.679
2015	3.802	3.622
2313	3.434	3.230
2647	3.089	2.855
2777	2.966	2.718
3098	2.685	2.408
3348	2.505	2.204
3573	2.390	2.065
3623	2.394	2.063
3891	2.334	1.970
4165	2.302	1.904
4213	2.283	1.881
4216	2.308	1.904
4289	2.269	1.855
4378	2.298	1.872
4402	2.280	1.852
4488	2.289	1.848
4544	2.285	1.838

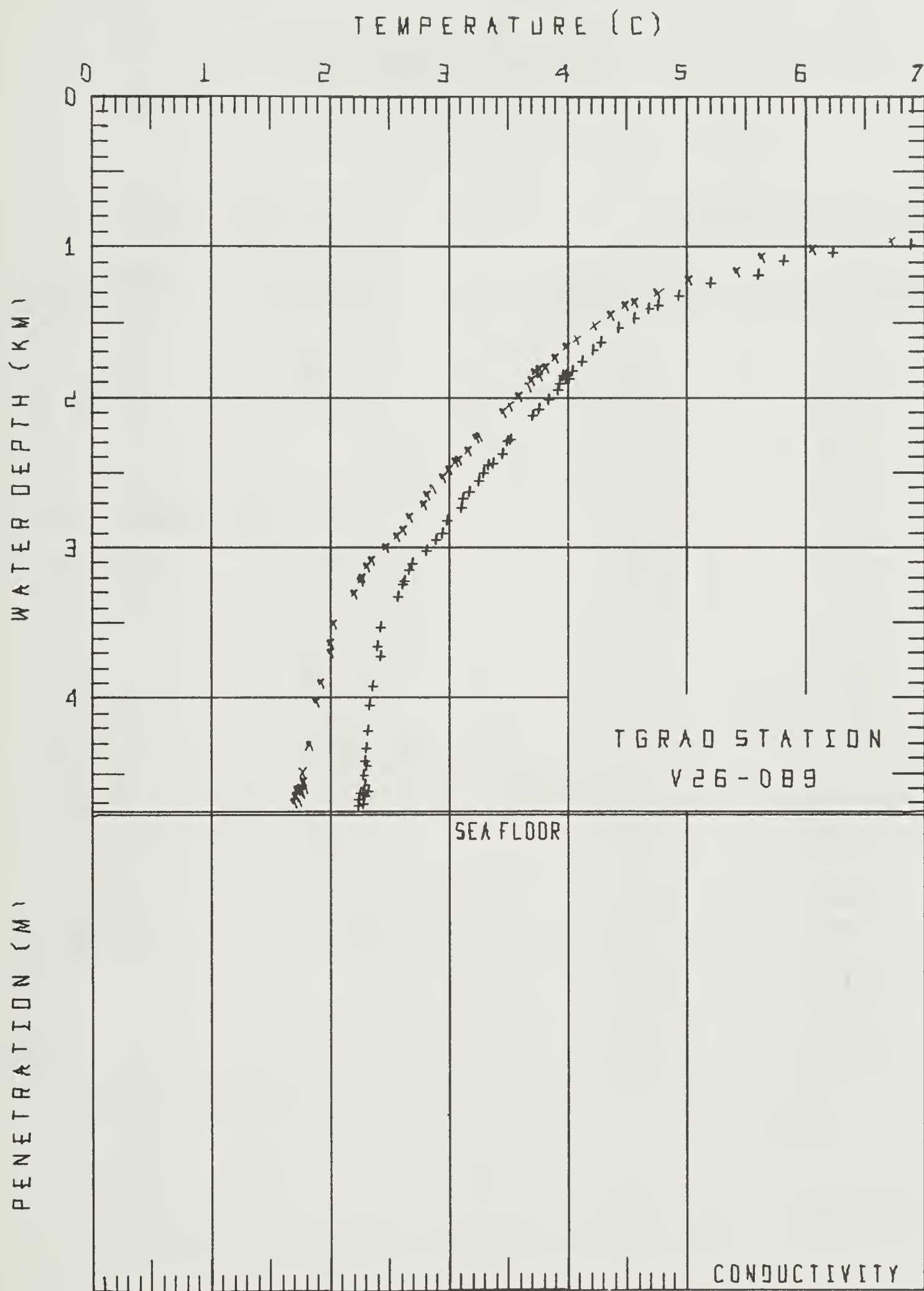
DEPTH METERS	TEMPERATURE CENTIGRADE
3.95	2.460



TGRAD STATION V26 089
 031 01 N 067 07 W
 CRUISE STATION 162

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE			
1041	6.821	6.712	2998	2.830	2.562
1090	6.161	6.053	3073	2.750	2.474
1146	5.746	5.637	3153	2.635	2.354
1236	5.539	5.421	3203	2.598	2.311
1293	5.140	5.020	3271	2.568	2.275
1377	4.871	4.746	3301	2.552	2.255
1437	4.699	4.569	3381	2.506	2.200
1468	4.615	4.482	3581	2.362	2.038
1526	4.496	4.359	3710	2.338	1.999
1591	4.361	4.218	3776	2.358	2.009
1682	4.214	4.065	3977	2.295	1.923
1734	4.146	3.993	4101	2.273	1.887
1811	4.054	3.894	4272	2.255	1.845
1877	3.979	3.811	4391	2.250	1.825
1891	3.938	3.770	4474	2.225	1.789
1911	3.923	3.755	4500	2.249	1.809
1913	3.892	3.723	4571	2.219	1.770
1928	3.954	3.782	4629	2.230	1.773
1926	3.930	3.759	4679	2.220	1.756
1965	3.868	3.693	4672	2.256	1.792
2007	3.855	3.675	4690	2.216	1.750
2065	3.780	3.596	4706	2.230	1.762
2127	3.704	3.514	4689	2.194	1.730
2175	3.647	3.454	4727	2.174	1.707
2328	3.463	3.256	4763	2.213	1.739
2343	3.437	3.230	4769	2.177	1.703
2430	3.387	3.170			
2491	3.312	3.091			
2503	3.276	3.053			
2555	3.227	3.000			
2606	3.188	2.955			
2683	3.109	2.869			
2728	3.059	2.816			
2786	3.039	2.789			
2876	2.927	2.671			
2953	2.887	2.621			



TGRAD STATION V26-090
 029 57 N 068 56 W
 CRUISE STATION 163

WATER TEMPERATURES

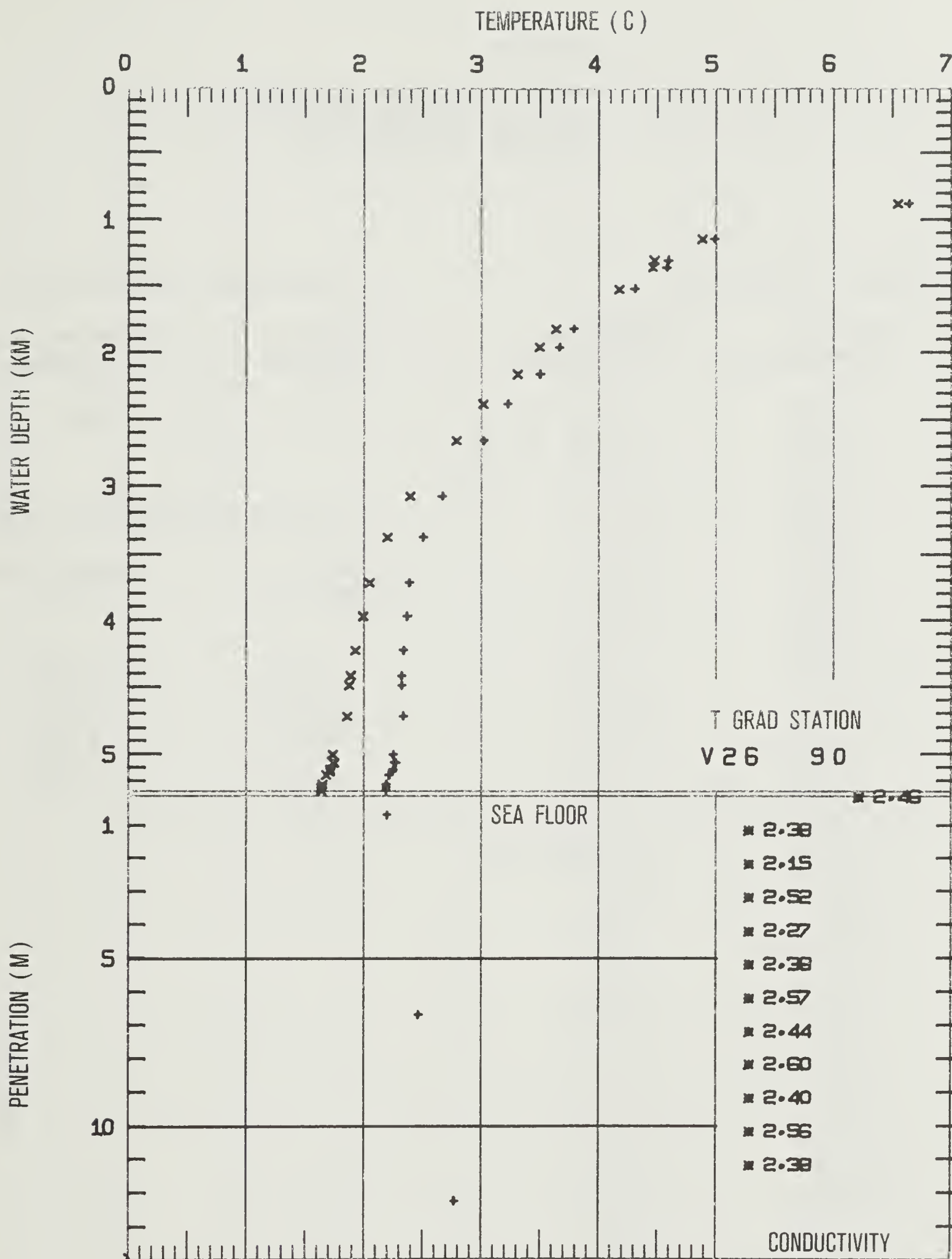
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
879	6.635	6.547
1141	4.982	4.880
1302	4.588	4.473
1355	4.578	4.458
1519	4.302	4.168
1818	3.785	3.628
1951	3.664	3.493
2156	3.495	3.308
2381	3.218	3.010
2654	3.017	2.784
3071	2.666	2.394
3371	2.505	2.200
3716	2.385	2.043
3964	2.362	1.989
4225	2.329	1.923
4486	2.315	1.875
4412	2.317	1.887
4717	2.331	1.857
5004	2.243	1.733
5061	2.256	1.736
5068	2.265	1.743
5114	2.242	1.714
5133	2.238	1.709
5062	2.256	1.736
5153	2.210	1.677
5223	2.184	1.644
5248	2.184	1.641
5272	2.184	1.638

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.72	2.188
6.70	2.455
12.24	2.756

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.46
1.20	2.38
2.20	2.15
3.20	2.52
4.20	2.27
5.20	2.38
6.20	2.57
7.20	2.44
8.20	2.60
9.20	2.40
10.20	2.56
11.20	2.38



TGRAD STATION V26-091
031 20 N 067 47 W
CRUISE STATION 164

WATER TEMPERATURES

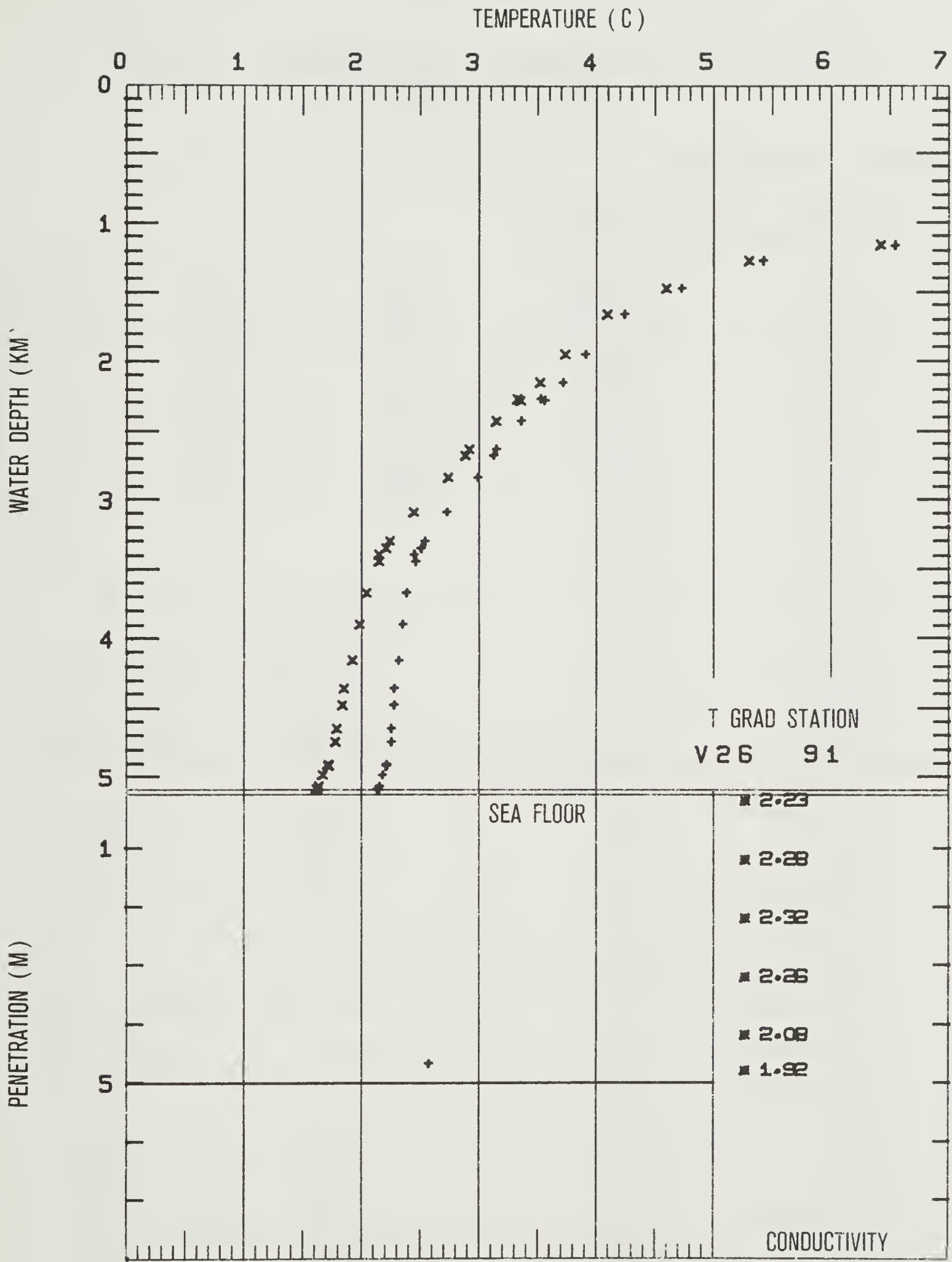
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1122	7.078	6.956
1089	7.111	6.993
1161	6.548	6.428
1275	5.434	5.312
1474	4.739	4.605
1658	4.253	4.105
1949	3.916	3.743
2151	3.727	3.534
2270	3.538	3.335
2281	3.568	3.364
2431	3.375	3.157
2634	3.158	2.923
2677	3.133	2.894
2836	2.997	2.743
3085	2.729	2.451
3293	2.542	2.246
3345	2.513	2.212
3387	2.454	2.150
3441	2.462	2.151
3666	2.381	2.046
3889	2.348	1.986
4151	2.317	1.921
4355	2.276	1.855
4474	2.276	1.838
4642	2.251	1.792
4740	2.250	1.776
4901	2.212	1.717
4912	2.214	1.719
4905	2.218	1.723
4977	2.178	1.674
5060	2.152	1.638
5082	2.142	1.625
5077	2.134	1.618

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
4.67	2.568

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.23
1.20	2.28
2.20	2.32
3.20	2.26
4.20	2.08
4.80	1.92



TGRAD STATION V26-092
029 45 N 068 41 W
CRUISE STATION 165

WATER TEMPERATURES

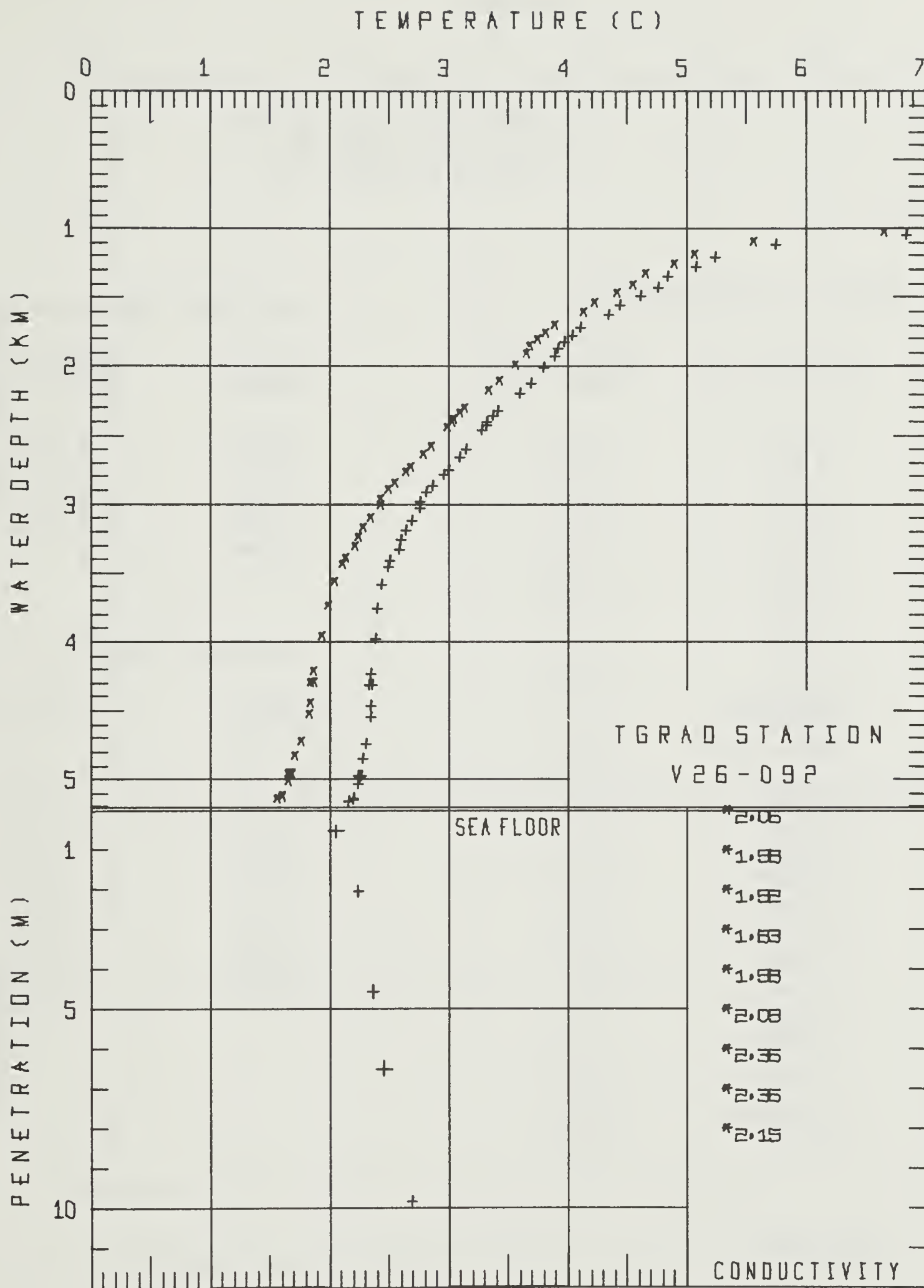
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE			
			4908	2.213	1.717
1102	6.779	6.664	5038	2.177	1.664
1174	5.681	5.569	5037	2.201	1.687
1266	5.182	5.065	5043	2.197	1.683
1331	5.019	4.895	5031	2.187	1.675
1403	4.780	4.653	5089	2.177	1.657
1480	4.692	4.557	5193	2.137	1.604
1545	4.557	4.417	5205	2.144	1.608
1616	4.380	4.236	5219	2.104	1.569
1682	4.285	4.134			
1771	4.049	3.892			
1836	3.980	3.816			
1876	3.914	3.747			
1927	3.855	3.684			
1979	3.837	3.661			
2070	3.744	3.559			
2179	3.630	3.435			
2254	3.543	3.343			
2374	3.352	3.142			
2415	3.312	3.098			
2459	3.260	3.042			
2485	3.256	3.036			
2521	3.212	2.988			
2654	3.089	2.854			
2709	3.030	2.790			
2807	2.940	2.690			
2846	2.896	2.644			
2921	2.809	2.549			
2965	2.756	2.493			
3036	2.703	2.433			
3086	2.701	2.425			
3181	2.637	2.351			
3242	2.579	2.289			
3311	2.543	2.245			
3383	2.523	2.217			
3466	2.447	2.133			
3510	2.434	2.114			
3637	2.375	2.042			
3811	2.342	1.989			
4032	2.322	1.941			
4296	2.284	1.871			
4377	2.269	1.845			
4369	2.291	1.868			
4526	2.289	1.845			
4599	2.285	1.831			
4799	2.243	1.762			

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.30	2.088
2.09	2.244
4.68	2.387
6.35	2.487
10.05	2.637

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.06
1.20	1.98
2.20	1.92
3.20	1.83
4.20	1.98
5.20	2.09
6.20	2.36
7.20	2.36
8.20	2.15



TGRAD STATION V26-093
 030 27 N 067 59 W
 CRUISE STATION 168

WATER TEMPERATURES

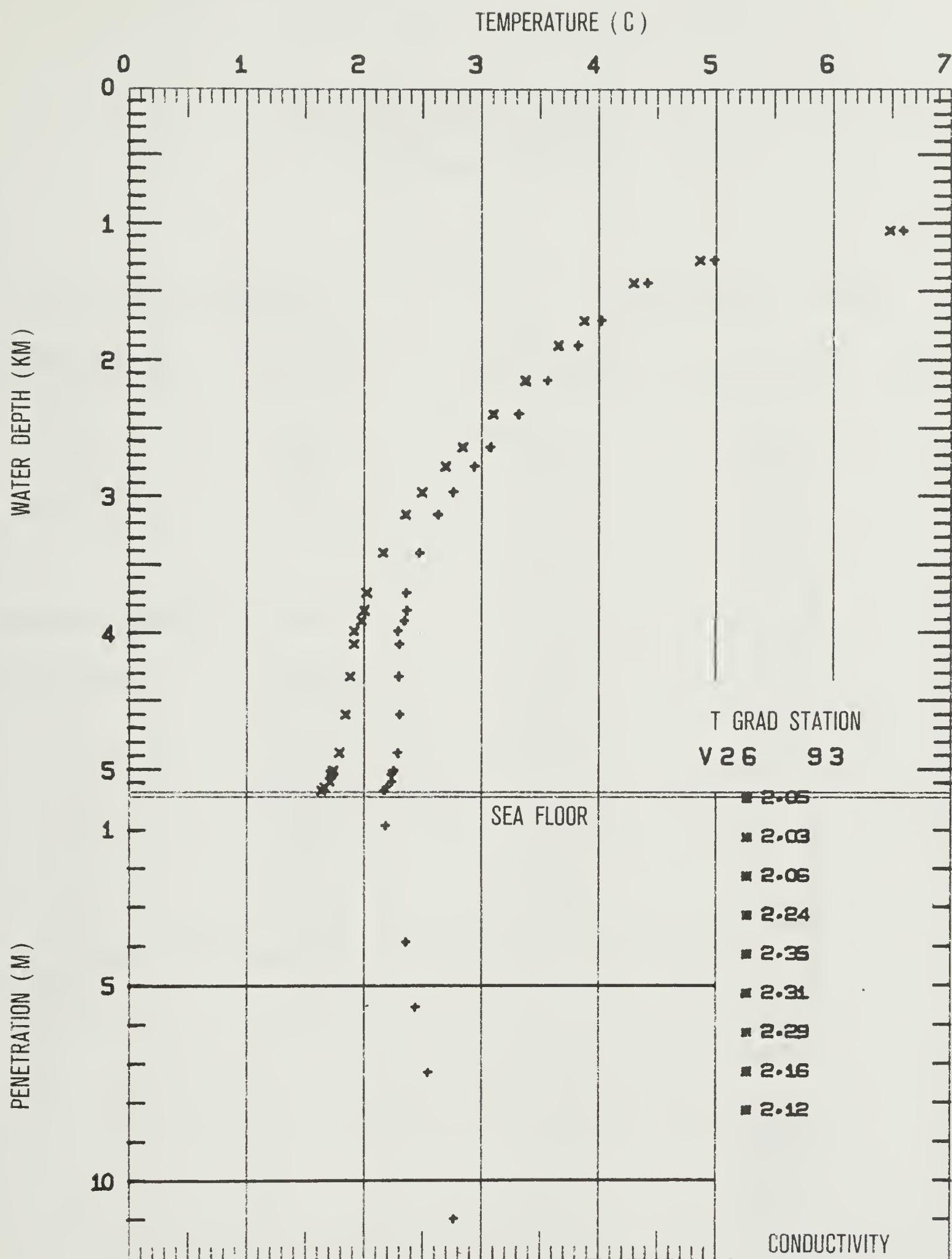
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1054	6.602	6.494
1268	4.988	4.873
1435	4.427	4.302
1710	4.031	3.881
1895	3.831	3.665
2154	3.573	3.382
2399	3.323	3.111
2640	3.084	2.849
2783	2.950	2.703
2970	2.771	2.507
3128	2.640	2.361
3412	2.481	2.173
3705	2.374	2.032
3835	2.368	2.012
3907	2.349	1.983
3982	2.296	1.924
4082	2.310	1.924
4317	2.308	1.891
4595	2.309	1.854
4873	2.292	1.798
5004	2.258	1.746
5036	2.236	1.721
5013	2.256	1.743
5005	2.255	1.743
5031	2.243	1.729
5089	2.242	1.719
5127	2.196	1.668
5150	2.177	1.648

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.90	2.190
3.87	2.361
5.56	2.441
7.22	2.548
10.98	2.770

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.05
1.20	2.03
2.20	2.06
3.20	2.24
4.20	2.35
5.20	2.31
6.20	2.29
7.20	2.16
8.20	2.12



TGRAD STATION V26-094
 029 55 N 068 43 W
 CRUISE STATION 169

WATER TEMPERATURES

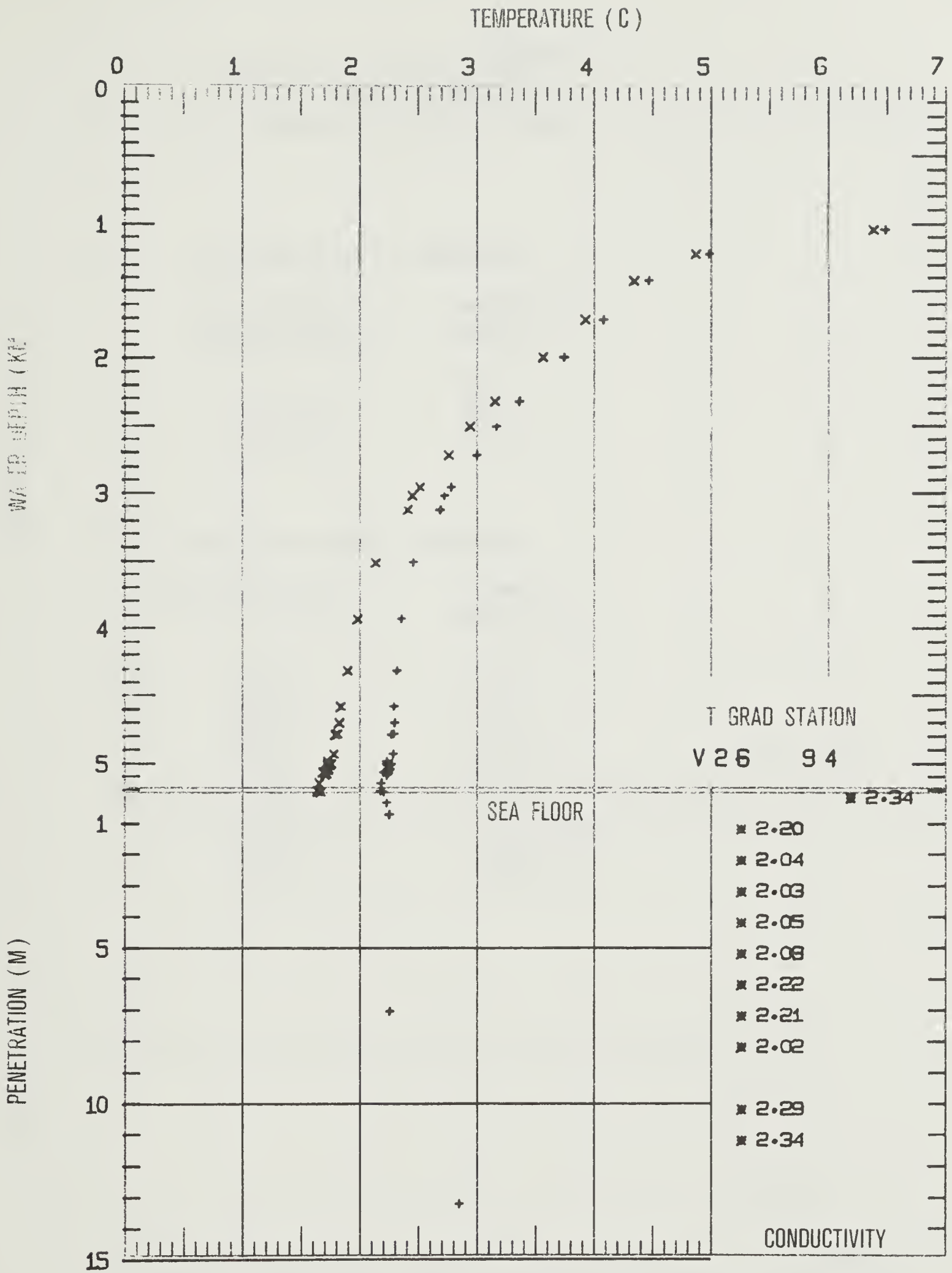
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1044	6.507	6.402
1222	5.005	4.894
1420	4.493	4.366
1708	4.104	3.954
1985	3.769	3.593
2319	3.390	3.185
2504	3.197	2.974
2716	3.032	2.790
2954	2.809	2.546
3018	2.750	2.480
3120	2.718	2.438
3511	2.484	2.164
3930	2.382	2.013
4313	2.344	1.925
4579	2.321	1.867
4699	2.323	1.852
4789	2.298	1.815
4781	2.321	1.838
4935	2.309	1.803
5041	2.282	1.763
5055	2.280	1.760
5075	2.258	1.736
5075	2.269	1.746
5091	2.255	1.730
5016	2.263	1.750
5013	2.282	1.766
5004	2.296	1.782
5008	2.280	1.766
5012	2.284	1.769
5057	2.252	1.733
5065	2.230	1.710
5001	2.260	1.749
4986	2.259	1.750
5012	2.269	1.755
5071	2.256	1.736
5147	2.210	1.680
5207	2.203	1.664
5211	2.233	1.693

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.35	2.255
0.76	2.277
7.04	2.279
13.22	2.872

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.34
1.20	2.20
2.20	2.04
3.20	2.03
4.20	2.05
5.20	2.08
6.20	2.22
7.20	2.21
8.20	2.02
10.20	2.29
11.20	2.34



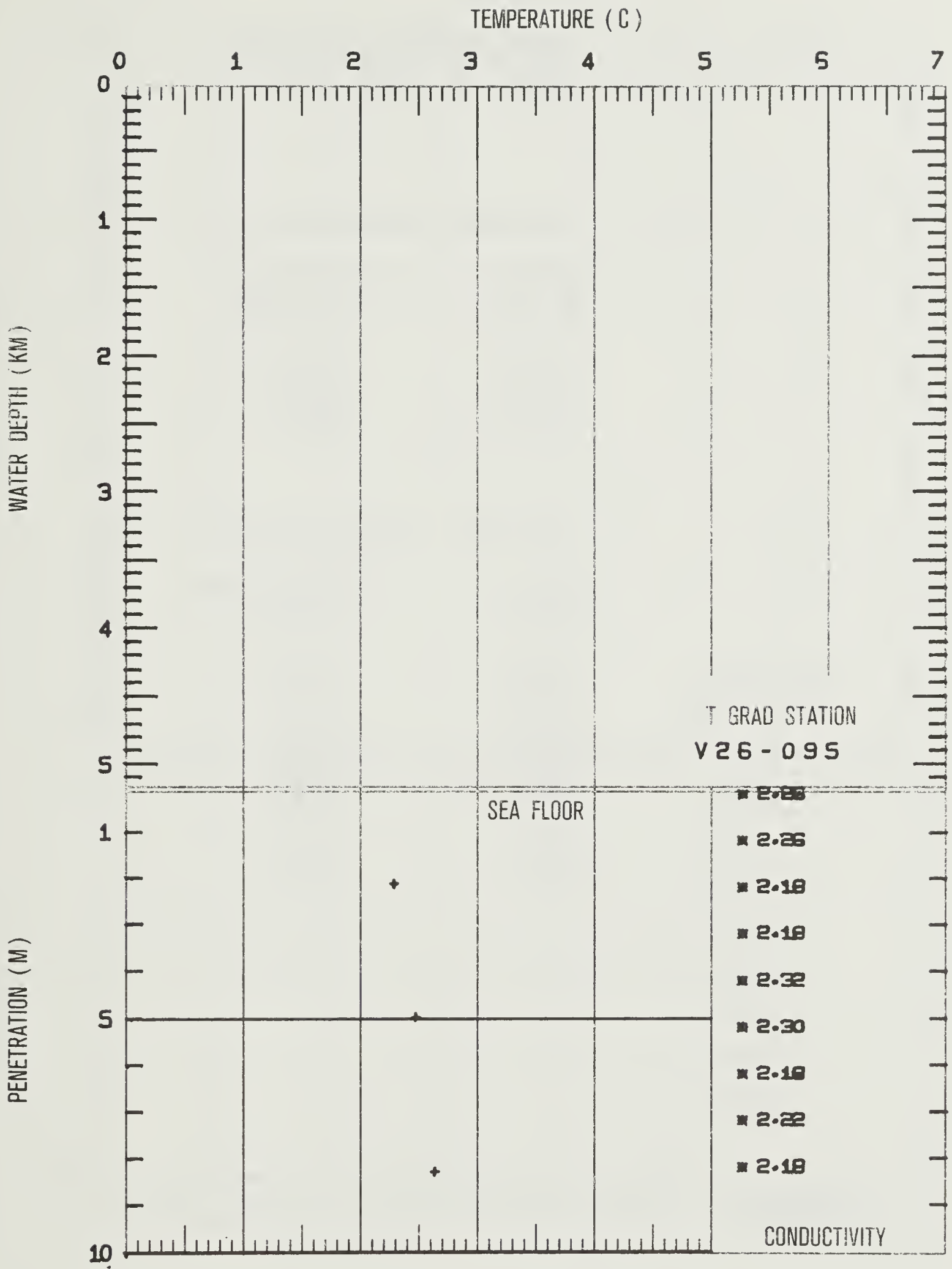
TGRAD STATION V26-095
030 50 N 067 44 W
CRUISE STATION 170

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.12	2.291
4.98	2.476
8.30	2.635

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.26
1.20	2.26
2.20	2.18
3.20	2.18
4.20	2.32
5.20	2.30
6.20	2.18
7.20	2.22
8.20	2.18



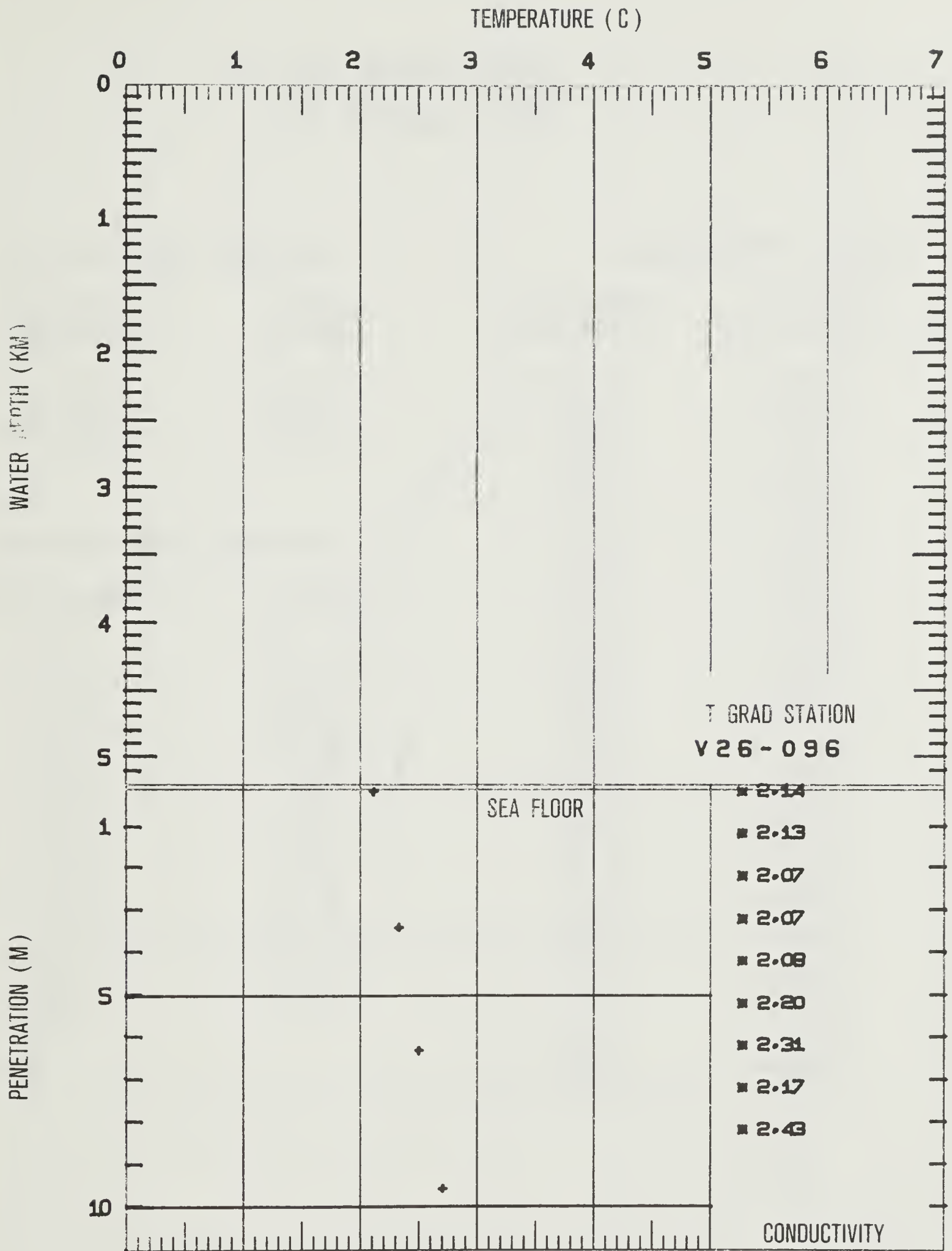
TGRAD STATION V26-096
030 05 N 068 17 W
CRUISE STATION 171

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.20	2.127
3.41	2.341
6.32	2.505
9.59	2.706

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.14
1.20	2.13
2.20	2.07
3.20	2.07
4.20	2.08
5.20	2.20
6.20	2.31
7.20	2.17
8.20	2.43



TGRAD STATION V26-097
 031 14 N 069 52 W
 CRUISE STATION 172

WATER TEMPERATURES

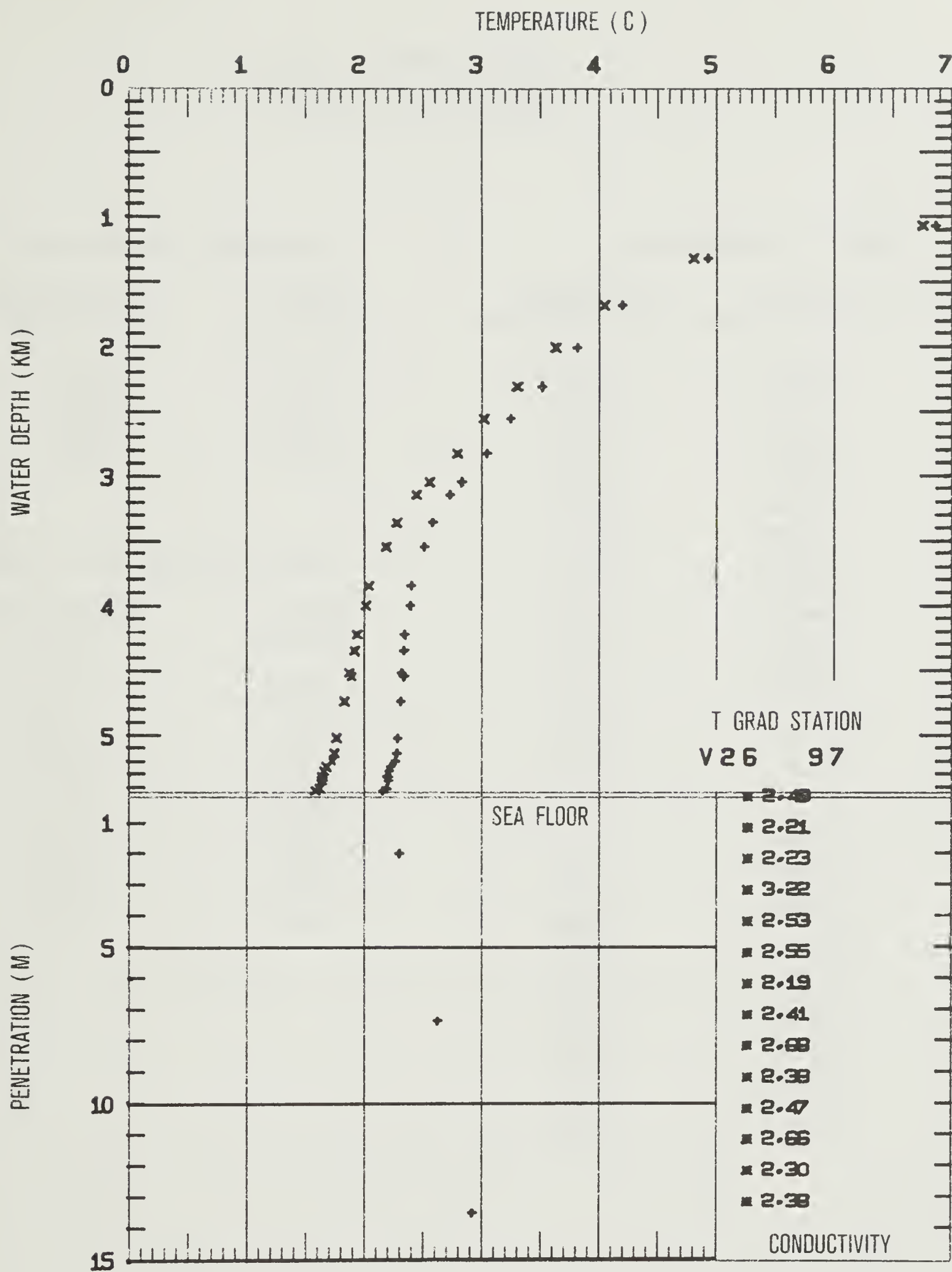
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1069	6.866	6.755
1323	4.934	4.813
1683	4.201	4.052
2010	3.816	3.638
2307	3.520	3.315
2554	3.251	3.022
2829	3.052	2.797
3045	2.838	2.563
3148	2.736	2.451
3359	2.592	2.288
3544	2.516	2.191
3844	2.405	2.046
3993	2.396	2.017
4220	2.352	1.946
4343	2.344	1.921
4514	2.323	1.878
4541	2.346	1.895
4740	2.317	1.841
5021	2.289	1.773
5133	2.282	1.750
5193	2.270	1.730
5238	2.232	1.687
5275	2.217	1.667
5317	2.197	1.641
5321	2.210	1.654
5351	2.214	1.654
5407	2.197	1.628
5424	2.164	1.595

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.02	2.302
7.38	2.634
13.56	2.923

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.49
1.20	2.21
2.20	2.23
3.20	3.22
4.20	2.53
5.20	2.55
6.20	2.19
7.20	2.41
8.20	2.68
9.20	2.38
10.20	2.47
11.20	2.66
12.20	2.30
13.20	2.38



TGRAD STATION V26-098
 032 09 N 070 00 W
 CRUISE STATION 173

WATER TEMPERATURES

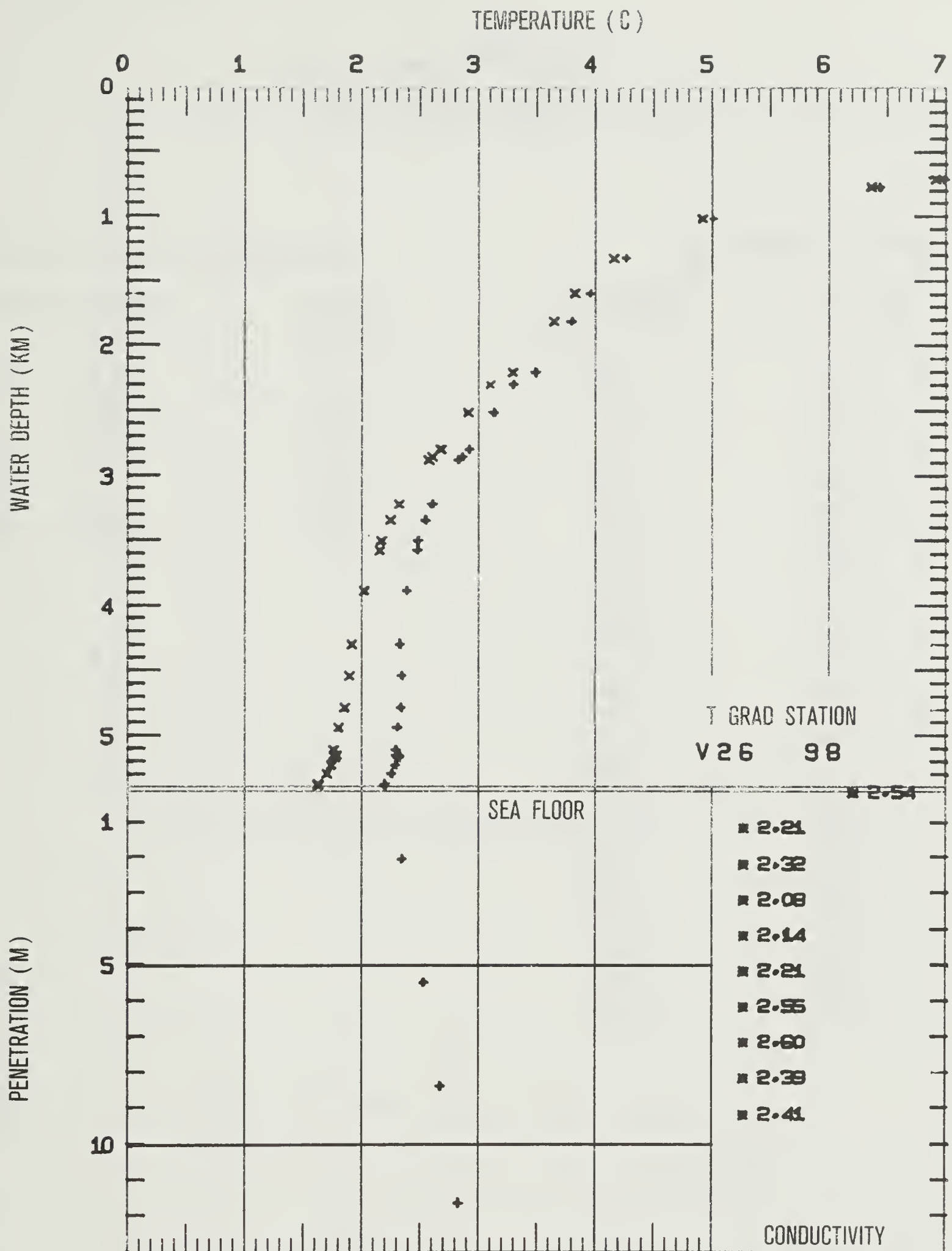
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
710	6.988	6.916
743	7.042	6.967
774	6.440	6.365
1015	5.014	4.925
1322	4.274	4.161
1588	3.966	3.829
1804	3.804	3.648
2204	3.488	3.296
2297	3.305	3.105
2510	3.140	2.920
2796	2.927	2.678
2851	2.867	2.613
2877	2.830	2.575
3219	2.611	2.322
3335	2.554	2.253
3500	2.487	2.168
3568	2.482	2.155
3880	2.389	2.026
4297	2.334	1.917
4534	2.348	1.898
4777	2.338	1.855
4934	2.309	1.805
5109	2.296	1.767
5152	2.300	1.765
5150	2.326	1.789
5168	2.316	1.777
5230	2.293	1.746
5294	2.258	1.703
5371	2.196	1.632
5383	2.199	1.634

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.06	2.348
5.50	2.533
8.41	2.670
11.68	2.825

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.54
1.20	2.21
2.20	2.32
3.20	2.08
4.20	2.14
5.20	2.21
6.20	2.55
7.20	2.60
8.20	2.39
9.20	2.41



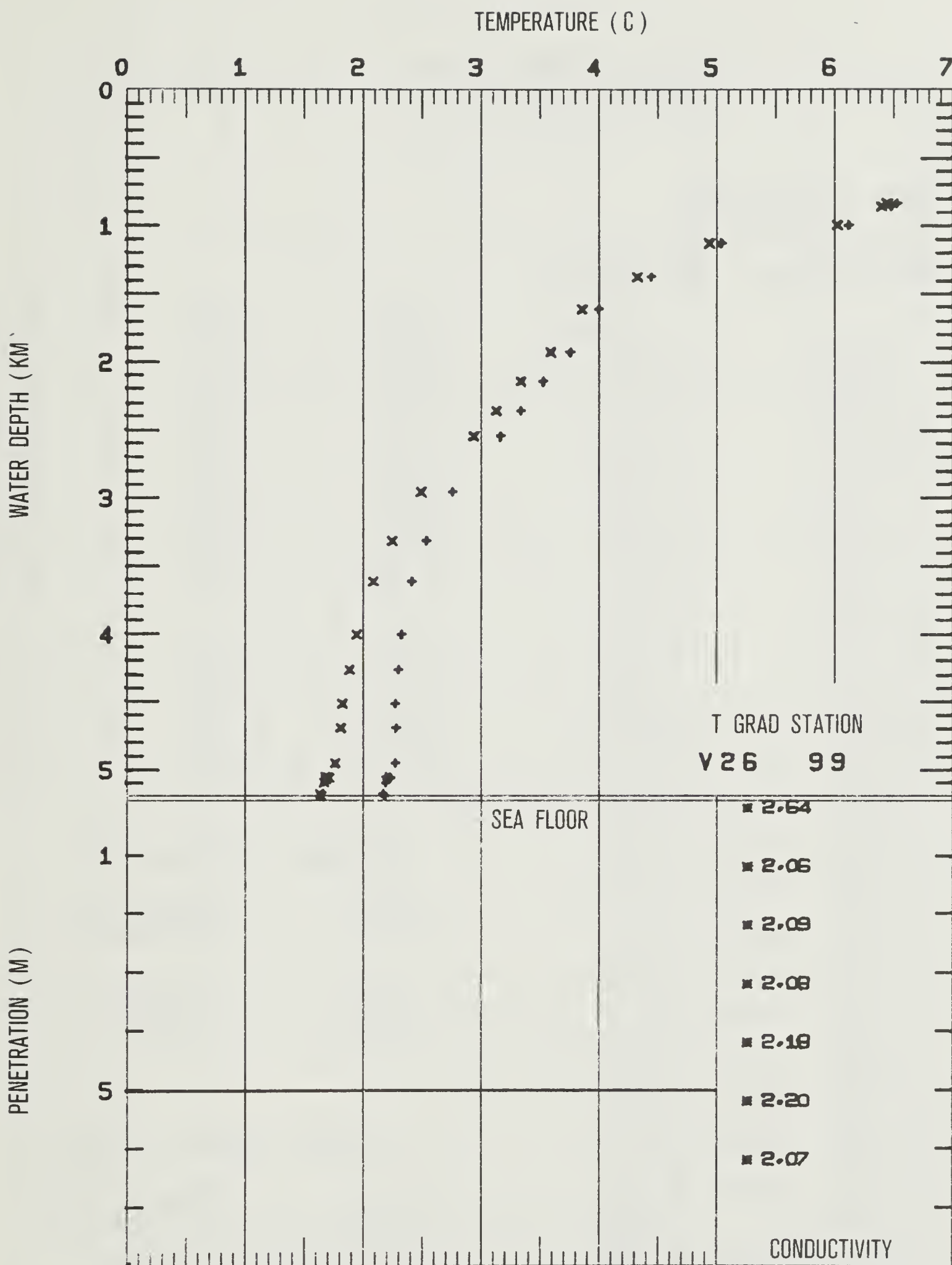
TGRAD STATION V26-099
032 03 N 068 06 W
CRUISE STATION 174

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
828	6.533	6.451
851	6.487	6.403
994	6.127	6.031
1127	5.042	4.941
1373	4.449	4.328
1612	4.005	3.865
1923	3.766	3.598
2142	3.529	3.342
2359	3.346	3.138
2546	3.171	2.946
2953	2.762	2.500
3311	2.547	2.250
3609	2.420	2.089
4005	2.329	1.951
4260	2.303	1.894
4510	2.276	1.834
4689	2.283	1.815
4949	2.277	1.773
5054	2.231	1.713
5058	2.238	1.720
5060	2.216	1.697
5071	2.212	1.693
5044	2.200	1.686
5094	2.198	1.677
5175	2.170	1.638
5190	2.190	1.654

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.64
1.20	2.06
2.20	2.09
3.20	2.08
4.20	2.18
5.20	2.20
6.20	2.07



TGRAD STATION V26-100
032 03 N 066 21 W
CRUISE STATION 175

WATER TEMPERATURES

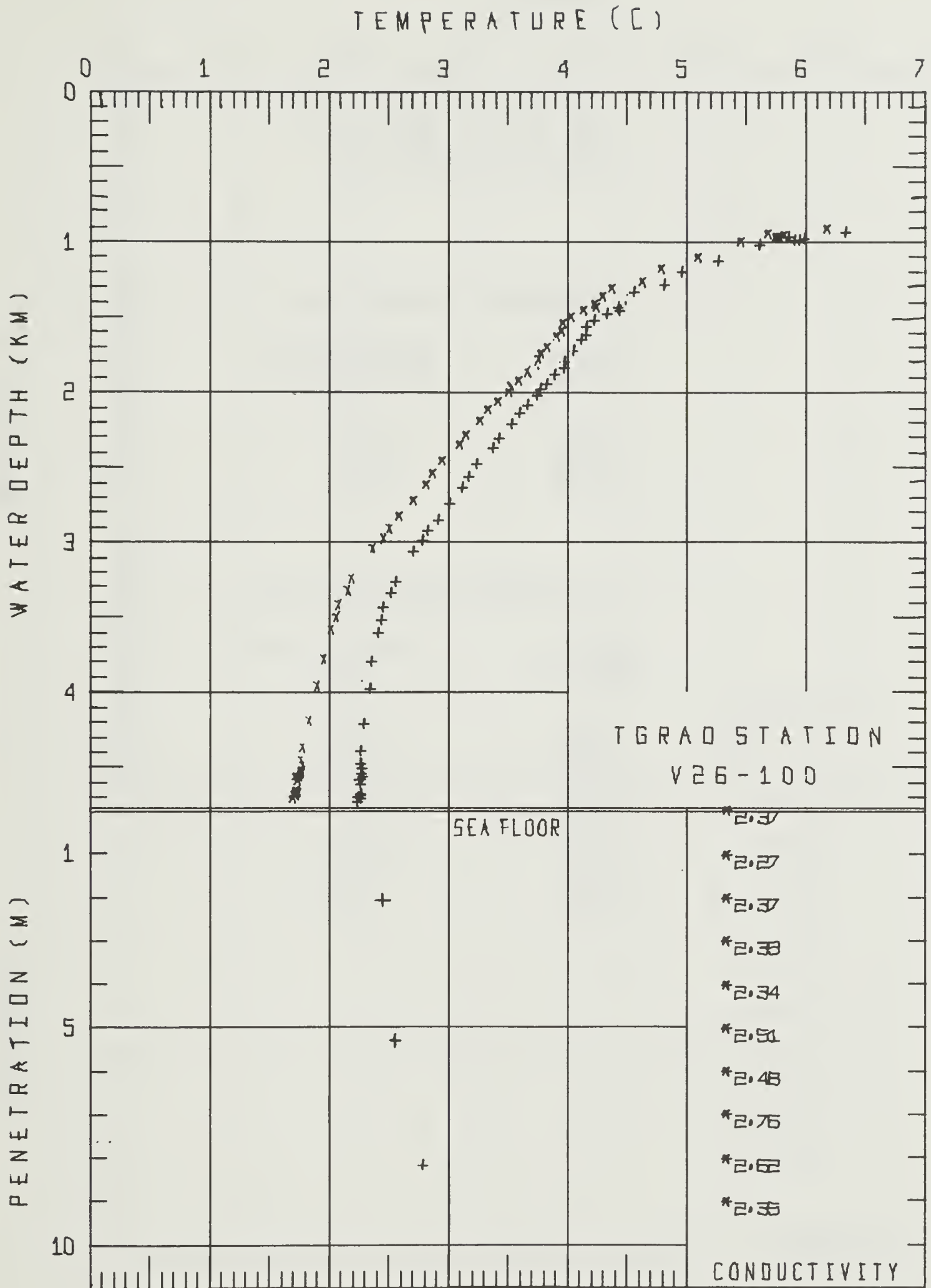
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE			
			3576	2.380	2.054
994	6.273	6.175	3658	2.351	2.017
1020	5.786	5.690	3851	2.302	1.947
1033	5.918	5.819	4025	2.278	1.901
1045	5.880	5.778	4259	2.232	1.825
1039	5.847	5.748	4444	2.201	1.772
1079	5.552	5.451	4532	2.200	1.759
1181	5.201	5.093	4556	2.219	1.773
1255	4.901	4.788	4592	2.210	1.759
1337	4.752	4.632	4638	2.204	1.746
1383	4.502	4.380	4630	2.185	1.730
1435	4.430	4.303			
1485	4.363	4.232	4608	2.223	1.769
1505	4.376	4.243	4670	2.201	1.740
1535	4.276	4.140	4730	2.199	1.730
1575	4.166	4.028	4741	2.207	1.736
1617	4.100	3.960	4750	2.180	1.710
1666	4.093	3.947	4761	2.201	1.727
1706	4.061	3.911	4783	2.178	1.701
1774	3.992	3.835			
1820	3.946	3.784			
1850	3.915	3.752			
1891	3.905	3.738			
1933	3.826	3.657			
1944	3.842	3.671			
1995	3.762	3.585			
2035	3.710	3.530			
2075	3.688	3.505			
2132	3.605	3.416			
2191	3.535	3.342			
2265	3.468	3.269			
2356	3.362	3.154			
2426	3.308	3.092			
2526	3.177	2.954			
2611	3.105	2.875			
2690	3.058	2.818			
2795	2.957	2.710			
2907	2.854	2.594			
2981	2.759	2.495			
3040	2.724	2.454			
3116	2.644	2.367			
3321	2.492	2.194			
3393	2.453	2.147			
3482	2.389	2.076			

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
2.19	2.441
5.22	2.584
8.37	2.725

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.37
1.20	2.27
2.20	2.37
3.20	2.39
4.20	2.34
5.20	2.51
6.20	2.48
7.20	2.76
8.20	2.62
9.20	2.35



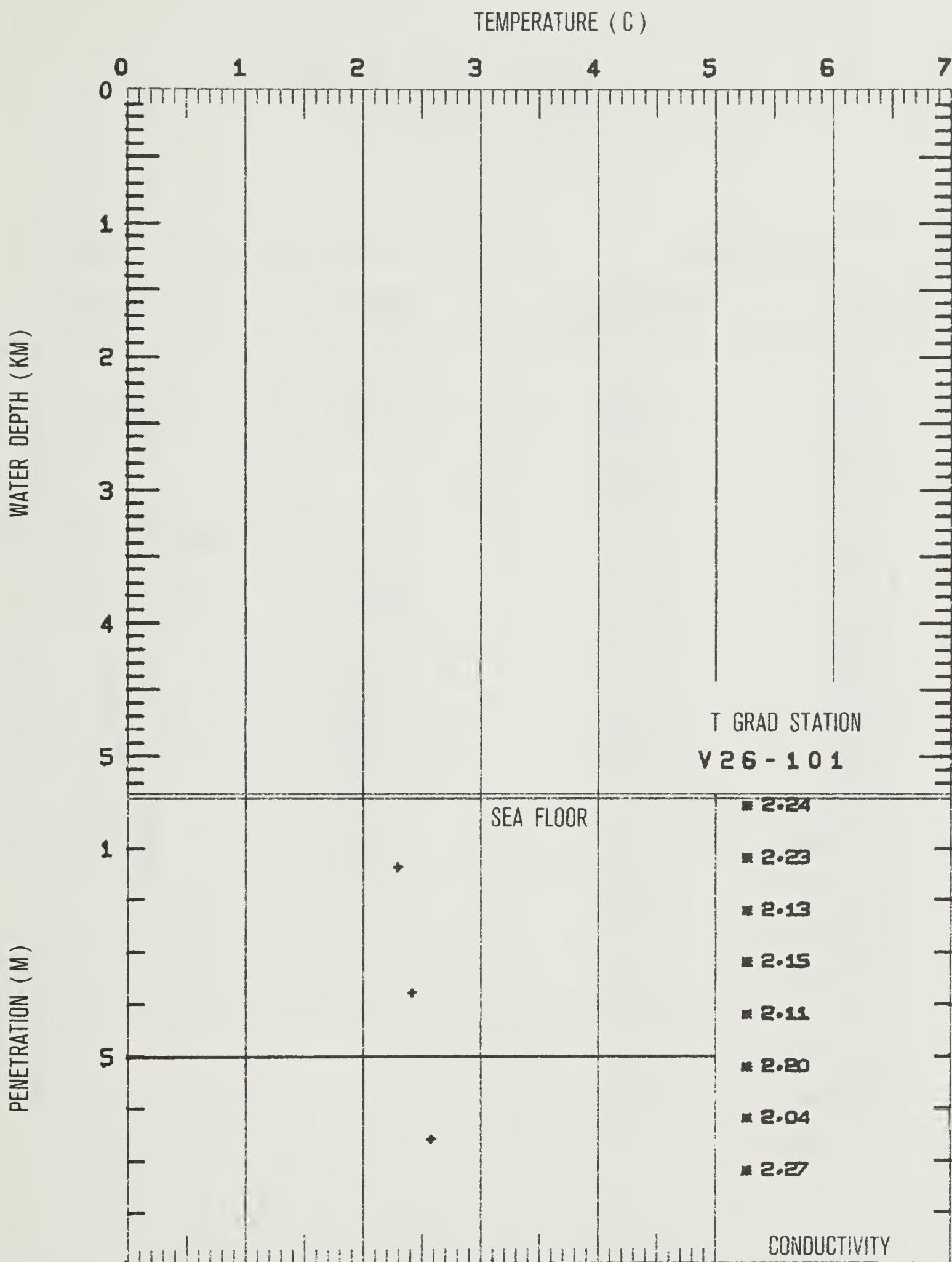
TGRAD STATION V26-101
032 16 N 068 51 W
CRUISE STATION 176

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.37	2.298
3.78	2.415
6.58	2.579

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.24
1.20	2.23
2.20	2.13
3.20	2.15
4.20	2.11
5.20	2.20
6.20	2.04
7.20	2.27



TGRAD STATION V26-102
032 32 N 073 17 W
CRUISE STATION 177

WATER TEMPERATURES

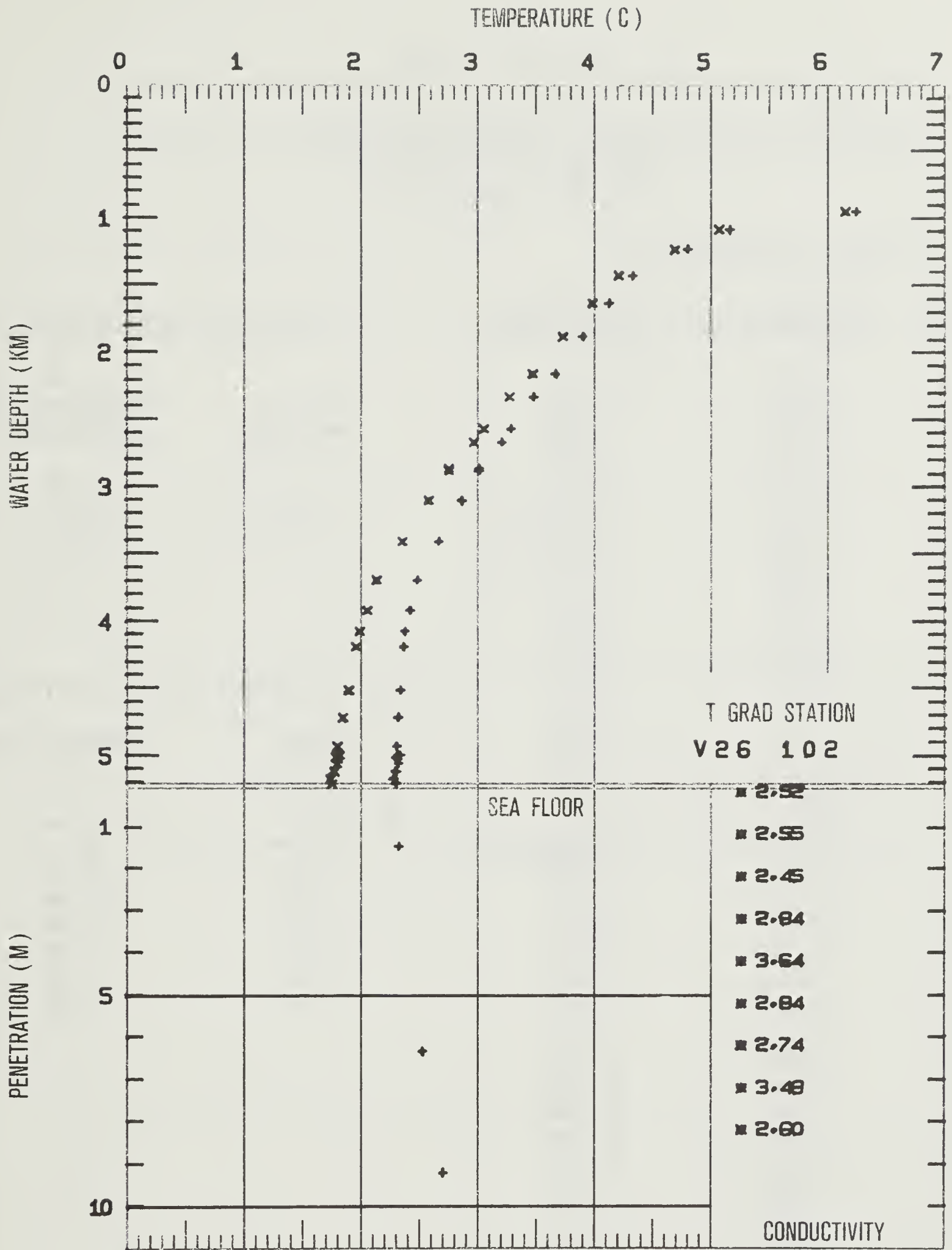
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
941	6.262	6.170
1075	5.186	5.088
1228	4.823	4.713
1420	4.354	4.229
1626	4.144	4.001
1872	3.917	3.751
2152	3.681	3.489
2325	3.499	3.291
2561	3.304	3.074
2657	3.224	2.984
2858	3.030	2.772
2874	3.032	2.771
3095	2.881	2.599
3401	2.686	2.374
3687	2.496	2.153
3916	2.440	2.069
4072	2.394	2.005
4187	2.375	1.973
4508	2.354	1.908
4709	2.329	1.855
4925	2.317	1.815
5020	2.326	1.809
4997	2.328	1.813
5005	2.312	1.798
4988	2.343	1.829
5053	2.331	1.809
5109	2.315	1.785
5169	2.290	1.753
5204	2.310	1.766

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.48	2.330
6.33	2.534
9.20	2.706

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.52
1.20	2.55
2.20	2.45
3.20	2.84
4.20	3.64
5.20	2.84
6.20	2.74
7.20	3.48
8.20	2.60



TGRAD STATION V26-103
 033 56 N 074 26 W
 CRUISE STATION 178

WATER TEMPERATURES

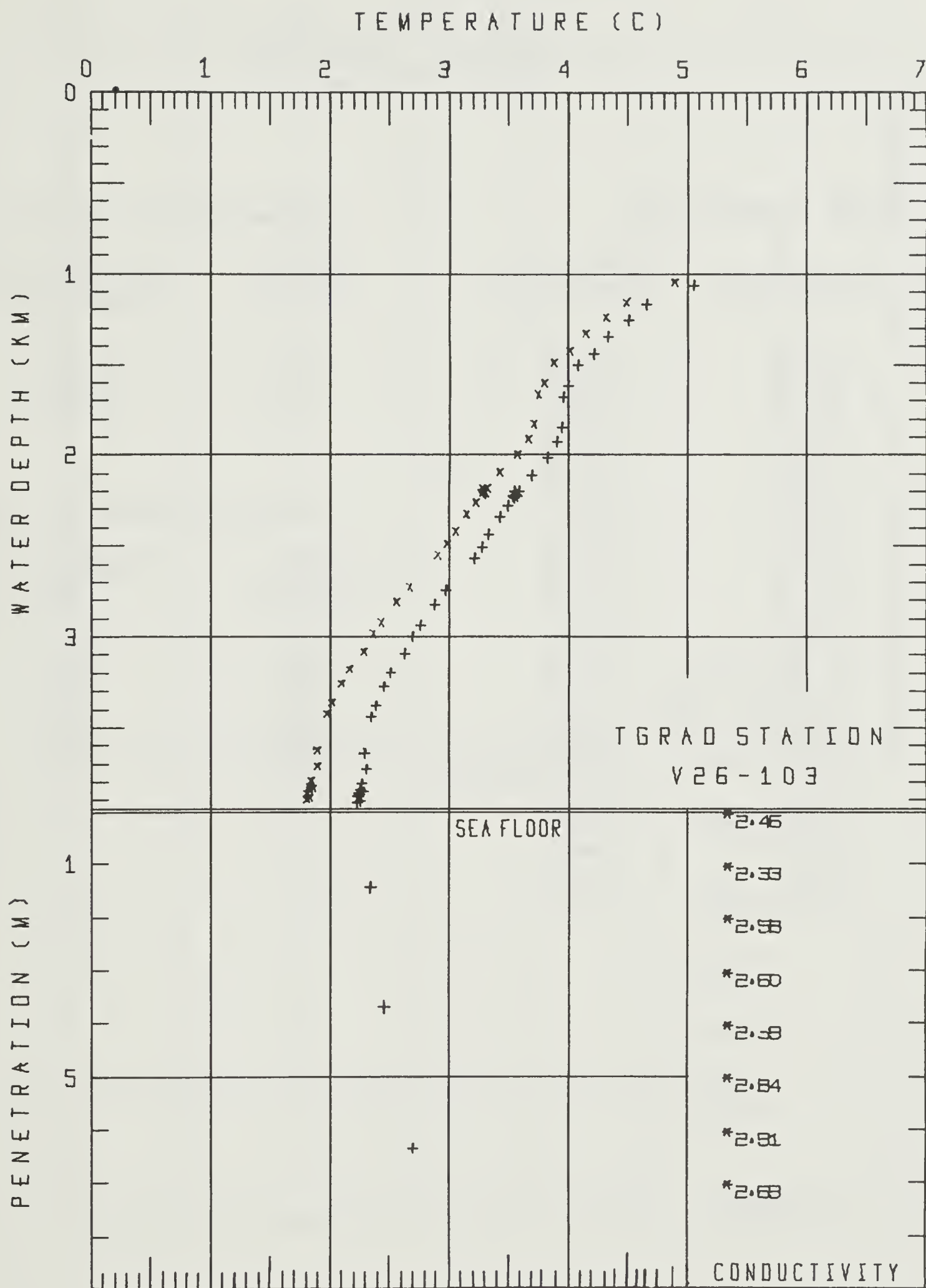
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1107	4.990	4.891
1211	4.586	4.480
1301	4.440	4.328
1394	4.276	4.155
1485	4.145	4.017
1549	4.019	3.887
1663	3.944	3.800
1728	3.897	3.747
1890	3.881	3.714
1971	3.841	3.665
2059	3.763	3.579
2159	3.628	3.436
2239	3.527	3.329
2269	3.487	3.286
2256	3.496	3.296
2277	3.486	3.284
2267	3.477	3.276
2269	3.513	3.310
2245	3.486	3.289
2273	3.471	3.270
2323	3.434	3.229
2380	3.363	3.152
2477	3.272	3.053
2553	3.220	2.993
2614	3.150	2.917
2788	2.915	2.668
2864	2.815	2.561
2981	2.697	2.434
3043	2.638	2.368
3139	2.560	2.282
3233	2.447	2.160
3312	2.388	2.095
3425	2.329	2.025
3487	2.283	1.973
3686	2.232	1.900
3773	2.238	1.894
3852	2.200	1.848
3904	2.184	1.826
3914	2.196	1.835
3886	2.190	1.832
3896	2.213	1.855
3926	2.166	1.805
3958	2.170	1.805
3948	2.193	1.828

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
1.37	2.336
3.72	2.468
6.52	2.638

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.46
1.20	2.33
2.20	2.58
3.20	2.60
4.20	2.39
5.20	2.84
6.20	2.91
7.20	2.69



TGRAD STATION V26-104
 036 03 N 072 23 W
 CRUISE STATION 179

WATER TEMPERATURES

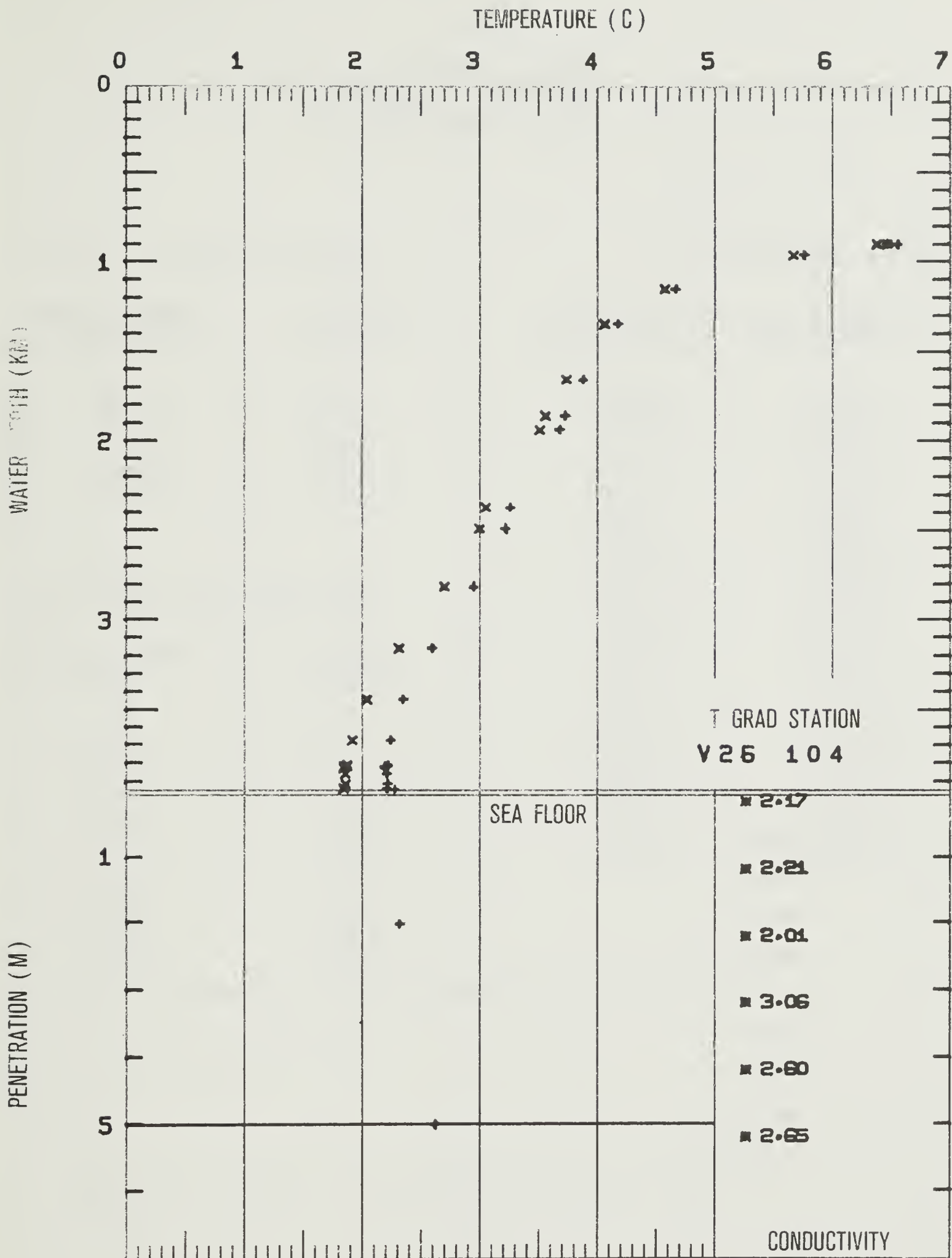
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
898	6.572	6.482
899	6.487	6.398
959	5.776	5.686
1145	4.687	4.588
1342	4.190	4.076
1655	3.892	3.750
1935	3.694	3.526
1858	3.736	3.574
2367	3.273	3.066
2484	3.231	3.012
2815	2.960	2.709
3156	2.607	2.325
3439	2.355	2.048
3667	2.252	1.921
3807	2.227	1.880
3823	2.204	1.855
3816	2.197	1.849
3823	2.200	1.852
3816	2.226	1.878
3856	2.217	1.862
3911	2.227	1.865
3939	2.218	1.855

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE CENTIGRADE
0.01	2.286
2.03	2.322
5.02	2.626

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.17
1.20	2.21
2.20	2.01
3.20	3.06
4.20	2.60
5.20	2.65



TGRAD STATION V26 105
 037 33 N 072 34 W
 CRUISE STATION 180

WATER TEMPERATURES

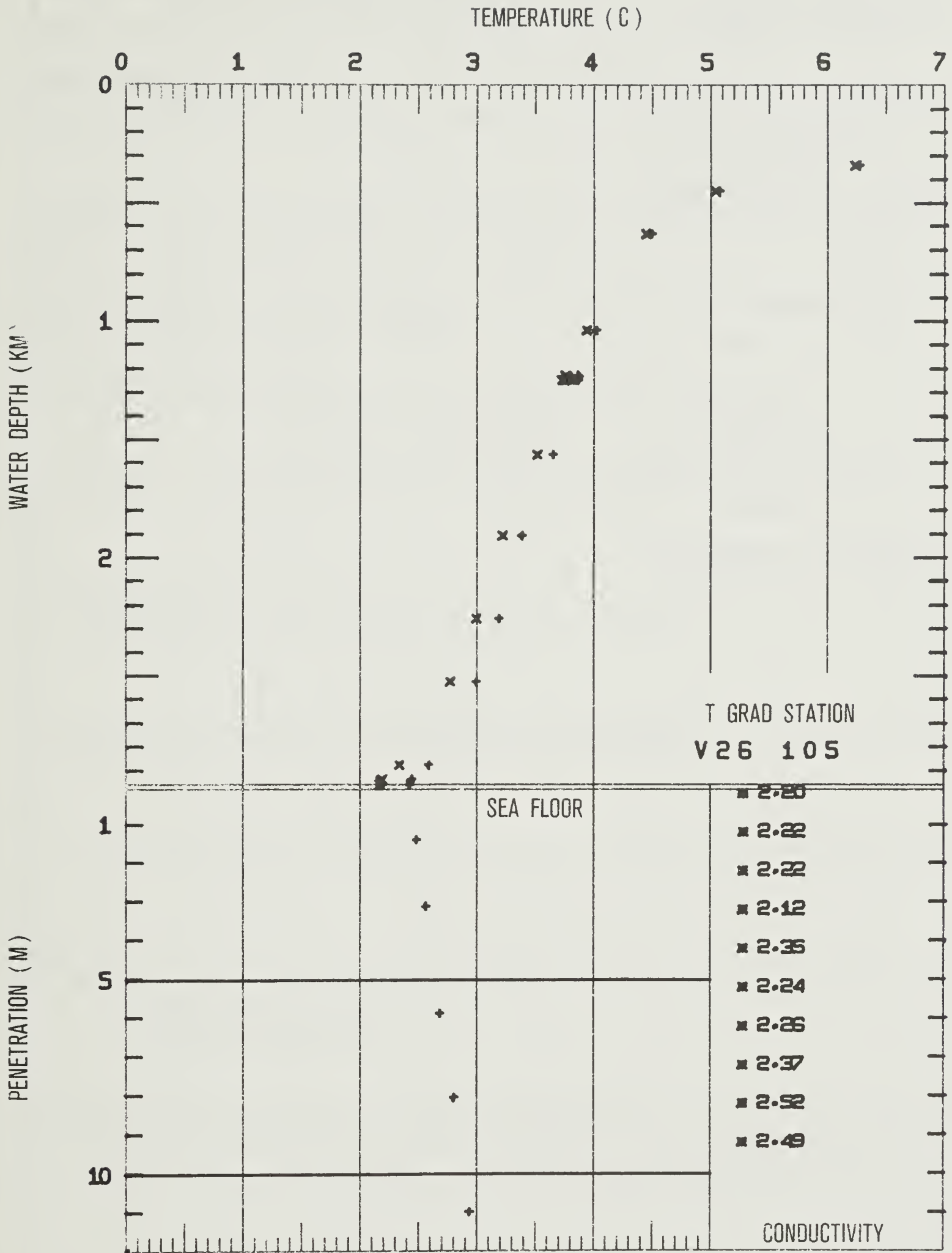
DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
338	6.255	6.225
448	5.060	5.024
630	4.486	4.436
1037	4.014	3.931
1247	3.839	3.738
1246	3.857	3.756
1231	3.855	3.756
1232	3.862	3.763
1226	3.851	3.752
1246	3.818	3.717
1561	3.642	3.513
1906	3.377	3.217
2258	3.184	2.990
2523	2.993	2.775
2876	2.585	2.337
2940	2.437	2.186
2948	2.430	2.178
2938	2.442	2.191
2960	2.425	2.172

SEDIMENT TEMPERATURES

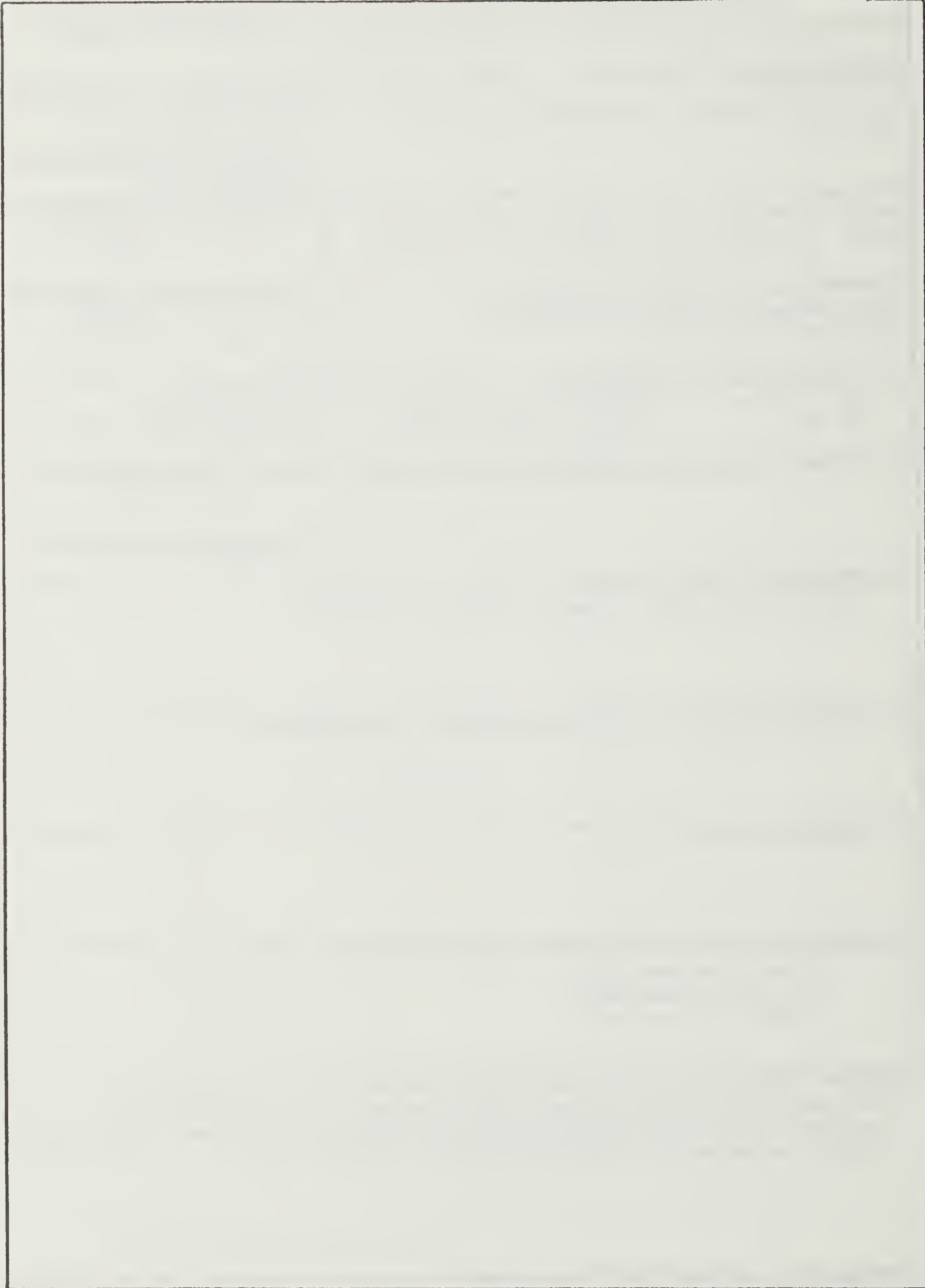
DEPTH METERS	TEMPERATURE CENTIGRADE
1.40	2.486
3.11	2.563
5.88	2.684
8.03	2.805
10.97	2.940

SEDIMENT CONDUCTIVITIES

DEPTH METERS	CONDUCTIVITY CGS
0.20	2.20
1.20	2.22
2.20	2.22
3.20	2.12
4.20	2.35
5.20	2.24
6.20	2.26
7.20	2.37
8.20	2.52
9.20	2.49



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